

Final Report

USAF Institute for National Security Studies 1998 Research Results Conference

**U.S. Air Force Academy, Colorado
19-20 November 1998**

**Sponsored By
USAF Institute for National Security Studies
United States Air Force Academy
and
Headquarters, United States Air Force
Policy Division
(AF/XONP)**

**Science Applications International Corporation
1710 Goodridge Drive
McLean, VA 22102**

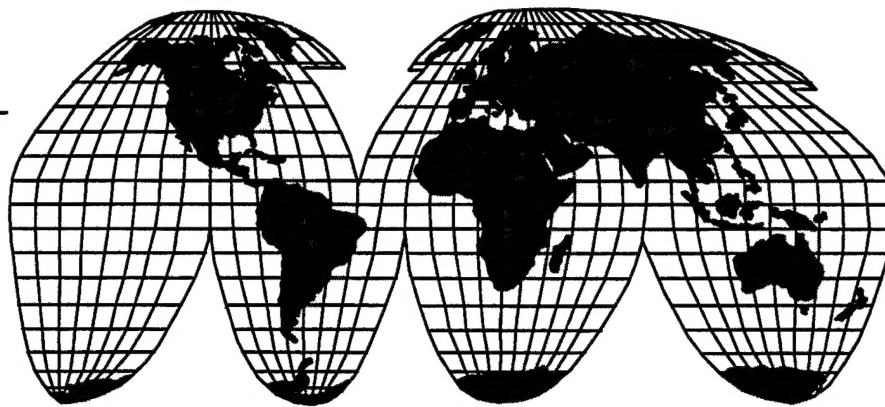
1998 Research Conference

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14. ABSTRACT: The USAF Institute for National Security Studies (INSS), in cooperation with HQ USAF Nuclear and Counterproliferation Directorate, sponsored it's 6 th annual Research Results Conference on 19-20 November 1998. The purpose of this conference was to present research results and highlight the significant accomplishments of a number of researchers sponsored by INSS during fiscal year 1998. The conference included briefings by the authors of their research through panel presentations and discussions. Issue areas were divided into ten topics. 1. Arms Control, Counterproliferation, Conflict in the Information Age, Environmental Security, Regional Security-transitions, USAF Issues, Regional Security-Arms Transfers, Regional Security-NATO Enlargement, Regional Security-Russia and Eastern Europe, Space Policy				
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USAF Institute for National Security Studies



**"1998 Research Results Conference"
19-20 November 1998**

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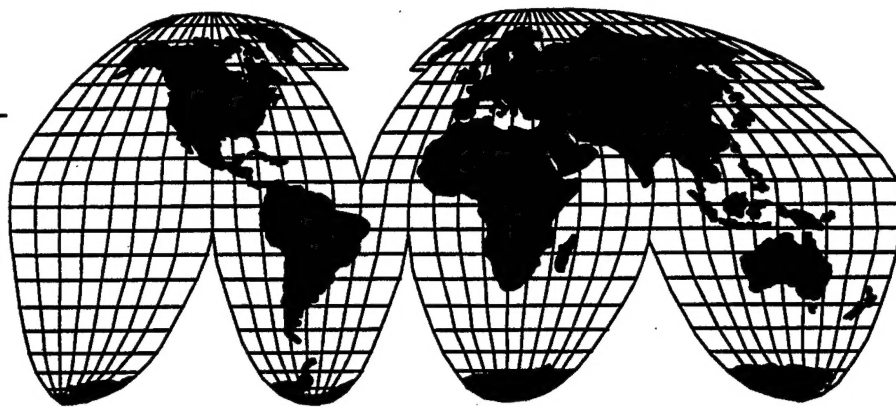
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Executive Summary

1998 Research Conference

EXECUTIVE SUMMARY

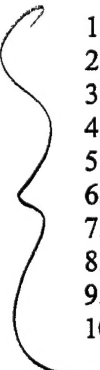
Opening Remarks

The USAF Institute for National Security Studies (INSS), in cooperation with HQ USAF Nuclear and Counterproliferation Directorate (USAF/XON), sponsored its 6th annual Research Results Conference on 19-20 November 1998. The conference was held at the USAF Academy, Colorado Springs, Colorado. The purpose of this conference was to present research results and highlight the significant accomplishments of a number of researchers sponsored by INSS during fiscal year 1998. Approximately 80 participants from private and government organizations attended the two-day event.

Welcoming remarks were given by Col Gunther A. Mueller, Vice Dean, US Air Force Academy (HQ USAFA/DFV), Col Thomas "Dutch" Miller, Chief of the Policy Division, Nuclear and Counterproliferation Directorate (HQ USAF/XONP), and Dr. James M. Smith, Director of INSS (HQ USAFA/DFES).

Background

The conference included briefings by the authors of their research through panel presentations and discussions. Issue areas were divided into ten topics:

- 
1. Arms Control
 2. Counterproliferation
 3. Conflict in the Information Age
 4. Environmental Security
 5. Regional Security - Transitions
 6. USAF Issues
 7. Regional Security - Arms Transfers
 8. Regional Security - NATO Enlargement
 9. Regional Security - Russia and Eastern Europe
 10. Space Policy

Each panel consisted of three to four experts, plus a Panel Chair. Following brief presentations by panelists, the group engaged in discussions. While all presentations were made for the record, panelists' remarks do not constitute an official government or institutional position on any specific issue.

Panel Discussions

Panel 1: Arms Control

Lt Col Alex Ivanchishin chaired the first panel, which focused on Arms Control issues. The panel was comprised of LTC Kevin D. Johnson of the Joint Military Intelligence College, Capt David R. King of the Department of Management, USAFA, and COL Jeffrey D. McCausland of the US Army War College.

LTC Johnson presented the panel's first paper, titled "Fundamental Deterrence and START III," which examined the optimal course for START III and beyond. Capt King's paper, "Interpreting Shadows: Arms Control and Defense Planning in a Rapidly-Changing Multipolar World," was informed by his premise that the US has yet to forge a new strategy suitable for the post-Cold War environment. He examined multiple world views to assess what a new arms control strategy should entail. Finally,

COL McCausland presented his research on the Conventional Armed Forces in Europe (CFE) Treaty. Titled "Carts and Horses—Strategy and Arms Control for a New Europe," the paper focused on the role that the CFE could play in ensuring European security. He also addressed how the Treaty will be affected by—and will affect—NATO enlargement.

Panel 2: Counterproliferation

The second panel was facilitated by Dr. Jeff Larson and included Lt Col Roy E. Horton, 91st Intelligence Squadron Commander; Dr. M. Ehsan Ahrari, Armed Forces Staff College; and Dr. Sami Hajjar, US Army War College. While the panel addressed counterproliferation, Dr. Larson commented that the panelists more specifically focused on case studies of nonproliferation failures in order to draw lessons for US policy.

Lt Col Horton opened the panel by presenting his paper, "Out of (South) Africa: Pretoria's Nuclear Weapons Experience." He examined the reasons behind South Africa's decision to develop and later reverse development of a nuclear capability. While some aspects are unique to the South Africa case, there are lessons that can be profitably applied to India and Pakistan. Dr. M. Ehsan Ahrari presented his paper titled "Growing Strong: Nuclear Genie in South Asia," in which he addressed the questions of why India decided to go nuclear and how should the US respond. Dr. Ahrari advised the US to look for realistic solutions rather than trying to reverse what is unlikely to be reversed. Finally, Dr. Hajjar discussed proliferation in the Middle East. While there are many reasons why some countries in the Middle East region have initiated programs to develop weapons of mass destruction (WMD), he cited three that stand out. These include: The Arab-Israeli conflict, the Iran-Iraq rivalry, and the interconnectivity of security issues in the region.

Panel 3: Conflict in the Information Age

Maj Gregory Rattray of AF/XOIWD chaired the third panel. The panel consisted of Col Carla D. Bass, Intelligence Group Commander; Lt Col Richard W. Aldrich, University of Houston; and Lt Col Larry K. Grundhauser, 13th Intelligence Squadron Commander.

Col Bass presented her research paper "Building Castles on the Sand: Ignoring the Riptide of Information Operations (IO)." Col Bass argued for the need to create a more consolidated, organizational approach dedicated exclusively to IO issues. Lt Col Aldrich's paper, "How Do You Know You are at War in the Information Warfare Age," discussed the severity of the problem and asserted the need for the US to take the lead in developing laws and policy to counter this new type of threat. Lt Grundhauser presented the final paper on this panel, titled "Sentinels Rising: Commercial High Resolution Satellite Imagery and its Implications for US National Security." He asserted that while geopolitical changes will continue to have a great impact on national security, the existence of high-resolution commercial imagery will present increasingly significant challenges to US national security issues, such as arms control and space policy.

Panel 4: Environmental Security

Mr. Robert E. Jarrett of the Army Environmental Policy Institute (AEPI) chaired the fourth panel. This panel included: Dr. Katherine S. Carson, USAFA, Department of Economics and Geography; Capt William Casebeer, University of California; Dr. Charles Krupnick, USAFA, 34th Education Group; and Lt Col Harold Bidlack, USAFA, Department of Political Science.

Dr. Carson started the presentations by discussing her research on "Discrete Choice Modeling of Environmental Security." The aim of the research was to forecast the probability of conflict as a

function of environmental conditions. Using econometric modeling, her results revealed that there is strong connection between environmental variables and both the ignition or continuation of conflict. Following Dr. Carson, Capt Casebeer looked at environmental security and the Middle East, focusing specifically on the availability of potable water as a significant contributor to or detractor from regional security. Given the strong link between the two, he advocated that analysts factor environmental issues into the equation in developing and implementing national security policy. Dr. Charles Krupnick then presented his research on "Russian Submarines, Nuclear Waste, and a Model of International Cooperation," focusing on the problems associated with decommissioning Russian nuclear submarines, specifically, the issue of spent fuel assemblies. Finally, Lt Col Bidlack finished the panel presentations by highlighting organizational problems in cooperating on environmental security issues. The paper, "Interagency Cooperation on Environmental Security: The White House and Beyond," concludes that inter-agency working groups (IWGs) might be a solution to this coordination problem and that the NSC is in the best position to lead on that front.

Panel 5: Regional Security - Transitions

Panel five was chaired by Dr. James Smith, Director of INSS, and included C1C Thanh N. Dinh, CS-38, USAFA; LTC Jeffrey Addicott, USSOUTHCOM; and Maj Mathew A. Long, Department of Political Science, USAFA. Dr. Smith opened the panel by explaining that unlike in previous years, this year's regional security panels were arranged thematically, rather than by regional focus. Panel five was assembled to address transitions, both at the national and regional level.

C1C Dinh's paper focused on ways to encourage Viet-nam's transition from an authoritarian regime to a democracy. C1C Dinh advocated that the US should engage, rather than isolate, Viet-nam in order to foster the economic, political, and social transformations necessary for democracy to develop. LTC Addicott's presentation also involved transition to democracy, but it focused on how the US should engage Cuba when Castro leaves power. LTC Addicott advocated laying the groundwork today in order to have a program ready to be implemented when Castro no longer holds office. Maj Long's research, unlike his co-panelists, looked at regional rather than national transitions. His paper compared the utility of two institutional mechanisms for maintaining Southeast Asian security, namely, the "San Francisco" system of US bilateral ties to regional states and the multilateral cooperative forum called the Southeast Asian Nations Regional Forum (ASEAN Regional Forum).

Panel 6: USAF Issues

The sixth panel was facilitated by Lt Col Alan Van Tassel, OSD/S&TR. Participants included Maj Gregory A. Cate, 89th Contracting Squadron; Capt William C. Thomas, HQ AFDC; Capt Sean Cantrell, 315th Training Squadron; and Maj Kenneth Thompson, SAF/IW.

Maj Cate opened the panel by presenting his paper, "Lessons Learned from Privatization at Newark AFB and the Effects of Privatization on AF Mission." In addition to highlighting the positive and negative affects of privatization, he also recommended including incentives for multiple outcomes such as cost-savings and timeliness, rather than focusing on one goal to the exclusion of the rest. Capt Thomas then discussed military issues and flashpoints that will likely predominate in the next peace operation. He highlighted four areas in particular: Doctrine and metrics; education and training; impact on military readiness; and, recommendations. Finally, Capt Cantrell looked at Force Protection (FP) issues, recommending that the USAF develop agile FP through an integrated intelligence organization.

Panel 7: Regional Security - Arms Transfers

Col Richard M. O'Connor, SAF/IAL chaired panel seven which was comprised of Col (S) James E. Moschgat, 612th Combat Plans Squadron; Lt Col Daniel L. Scott, NAOC Intelligence Branch; Lt Col Antonio L. Palà, Department of Foreign Languages, USAFA; and Dr. Frank O. Mora, Rhodes College.

Col Moschgat presented his research which examined co-production in the Middle East. His research compared Turkey's F-16 program and Egypt's M1A1 program to assess the value of this endeavor. While there are significant pitfalls to avoid, Col Moschgat concluded that co-production, if correctly implemented, is a valuable foreign policy tool. Next, Col Anhalt addressed whether or not the US should promote the sale of combat aircraft to Latin America. For a variety of reasons, including poverty, lack of need for combat aircraft, and others, he concluded that the US should not lift the current ban on such sales. Taking a contrary view, Lt Col Palà and Dr. Mora argued for lifting the ban and allowing the US to sell advanced aircraft on a case by case basis to Latin America.

Panel 8: Regional Security - NATO Enlargement

Panel eight was chaired by Col Dave Anhalt, OSD/Net Assessment and included panelists Dr. Robert Dorff, US Army War College; Maj Mark Gose, Department of Political Science, USAFA, presenting for Col Samuel Grier, Department of Computer Science, USAFA; and Lt Col Joseph R. Wood, French Joint Defense College, Paris.

Dr. Dorff opened the panel discussion on NATO enlargement by presenting his research on public opinion related to enlargement. Dr. Dorff noted that there was little public dialogue on this momentous decision. Furthermore, his research revealed that while there is support, *in theory*, for enlargement, that support is not deeply-held and could dissipate if enlargement requires the public to make financial sacrifices to fulfill its obligations. Next, Maj Gose presented a paper authored by Col Grier titled "The New NATO." While Col Grier believes that NATO enlargement is a *fait accompli*, there is much work to be done to ensure it is advantageous. Finally, Lt Col Wood provided an overview of potential tensions that could jeopardize NATO's relatively smooth expansion. He stressed that while NATO is enjoying a rather easy period, the Alliance will need to work to ensure that small tensions do not grow in the future and that NATO's success continues.

Panel 9: Regional Security - Russia and Eastern Europe

COL Jeffrey D. McCausland, US Army War College chaired the discussions on Regional Security. This panel included Col (S) David Fadok, JCS/J-5; Maj Marybeth Ulrich, Department of Political Science, USAFA; and Capt Stephen Lambert, 34th Education Squadron, USAFA.

Col Fadok opened the panel with a highly controversial proposition: The US should advocate that the Russian Federation join NATO. In his paper titled "Juggling the Bear: Assessing NATO Expansion in Light of Europe's Past and Asia's Future," he laid out a variety of positives that could result from such a position, including balancing US interests in Asia and stabilizing Russia. Maj Ulrich presented an institutional overview in her paper, "NATO's Identity at the Crossroads: Institutional Challenges Posed by NATO's Enlargement and Partnership for Peace Program." Finally, Capt Lambert addressed whether or not admitting the Baltic States into NATO would serve the Alliance and European stability, looking at the issue from both a US and a Russian perspective.

Panel 10: Space Policy

The final panel of the conference was chaired by Col Jim Painter, USSPACECOM/J5X, and addressed Space Policy. This panel included: Maj Steven M. Rothstein, School of Advanced Airpower Studies; Lt Col Guy M. Walsh, USCENTCOM/J-3; and Col Frank Klotz, Defense Intelligence Agency.

Maj Rothstein presented a paper he co-authored with Maj Anderson exploring the notion that the military's view of the air/space environment presents a dilemma that directly influences its ability to advocate, identify, and justify requirements. Lt Col Walsh delivered his research titled "Full Spectrum Transition: Initiatives for Integrating Air and Space," which provided recommendations for integrating the now separate air and space cultures into a seamless Aerospace Force. Finally, arguing that reliance will only increase in future conflicts, Col Klotz, in a paper titled "Space, Commerce, and National Security," emphasized the need for the US to develop capabilities to protect its space systems and deny the use of space to potential adversaries. He also recommended arms control as a possible tool to limit conflict in space.

Awards Banquet

The awards banquet was highlighted by a keynote address by Gen (USAF, Ret) James P. McCarthy. Gen McCarthy's address focused on the need to develop a strategic vision for the year 2015. In shaping this vision, Gen McCarthy suggested that the US focus on a few key areas that the US will need to address to meet the challenges of the next century, including information warfare, controversies or attacks in space, chemical and biological weapons (CBW), organized crime, and others.

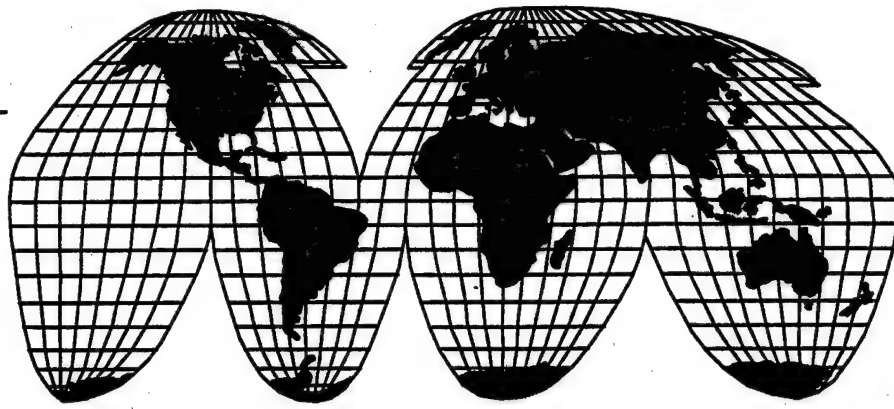
Gen McCarthy also emphasized the role of INSS as a research institution in developing new ways for America to fight. He highlighted a few areas where research has a role—and a responsibility—to make strides, noting information warfare and emerging new concepts, such as "strategic control" and "effects-based warfare." Gen McCarthy summarized that INSS has already demonstrated itself as an organization that contributes significantly to the intellectual capital of the Air Force and the United States and challenged researchers to pursue issues, even if they are controversial.

Awards

Following General McCarthy's remarks, Brig Gen David A. Wagie, Dean of the Faculty, USAFA, and Col Miller, Chief of the Policy Division, HQ USAF/XONP presented two awards: the Major General Robert E. Linhard Award for Outstanding Research for INSS and the Outstanding [USAF] Academy Researcher Award for research undertaken in fiscal year 1998.

The Major General Robert E. Linhard Award for Outstanding Research was presented to Lt Col Gwendolyn M. Hall (HQ USAFA/DFPS), Maj John T. Cappello (HQ USAFA/DFPS), and Captain Stephen P. Lambert (HQ USAFA/34ES) for their INSS Occasional Paper 20, entitled "A Post-Cold War Nuclear Strategy Model." The Linhard Award consists of a plaque for each recipient, as well as a claim to \$2,000 each in INSS research support for fiscal year 1999. Their names will also be inscribed on the Linhard Award plaque at HQ USAF at the Pentagon.

The Outstanding Academy Researcher Award was presented to Capt Paul J. Valley for his INSS Occasional Paper 22, titled "Environmental Security in the Czech Republic: Status and Concerns in the Post-Communist Era." Capt Valley currently serves in the Department of Biology at the US Air Force Academy. The Outstanding Academy Researcher Award consists of a plaque, as well as a claim to \$2,000 in INSS research support for fiscal year 1999. Capt Valley's name will also be inscribed on the INSS Award plaque in the lectinar area of Fairchild Hall.



Agenda

1998 Research Conference



DEPARTMENT OF THE AIR FORCE
6th ANNUAL RESEARCH RESULTS CONFERENCE
19-20 November 1998



AGENDA

THURSDAY, 19 NOVEMBER

Fairchild Hall, Lecture Hall H-2 and Lectinars L-2 and L-10 (third floor)

- 0800** Buses depart hotel for Fairchild Hall
- 0830-0900** Registration and refreshments
- 0900-0930** (H-2) Opening Session
Col Gunther A. Mueller, Vice Dean, USAFA
Col Thomas "Dutch" Miller, AF/XONP
Dr James M. Smith, Director, INSS
- 940-1120** (H-2) Panel 1: Arms Control—**Lt Col Alex Ivanchishin, AF/XONP, Chair**

"Fundamental Deterrence and START III,"
LTC Kevin D. Johnson, Joint Military Intelligence College,
"Interpreting Shadows: Arms control and Defense Planning in a Rapidly
Changing Multi-Polar World,"
Capt David R. King, Department of Management, USAFA,
"Carts and Horses: Strategy and Arms Control for a New Europe,"
COL Jeffrey D. McCausland, US Army War College
- 1120-1220** Lunch catered in H-2. Presentations on publication opportunities
- 1220-1400** (H-2) Panel 2: Counterproliferation—**Dr Jeff Larsen, SAIC, Chair**

"Out of (South) Africa: Pretoria's Nuclear Weapons Experience"
Lt Col Roy E. Horton, III, 91st Intelligence Squadron Commander,
"Growing Strong: Nuclear Genie in South Asia"
Dr M. Ehsan Ahrari, Armed Forces Staff College,
"Security Implications of the Proliferation of Weapons of Mass Destruction
(WMD) in the Middle East,"
Dr Sami Hajar, US Army War College
- 1410-1530** (L-2) Panel 3: Conflict in the Information Age—**Maj Gregory Rattray, AF/XOIWD, Chair**

"Building Castles on Sand: Ignoring the Rip Tide of Information Operations,"
Col Carla D. Bass, 694th Intelligence Group Commander,
"Sentinels Rising: Commercial High-Resolution Satellite Imagery and Its
Implications for US National Security,"
Lt Col Larry K. Grundhauser, 13th Intelligence Squadron Commander
"How Do You Know You Are at War in the Information Warfare Age?"
Lt Col Richard W. Aldrich, University of Houston



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- 1410-1530 (L-10) Panel 4: Environmental Security—Mr. Robert E. Jarrett, AEPI, Chair
- "Discrete Choice Modeling of Environmental Security,"
Dr Katherine S. Carson, Department of Economics and Geography, USAFA
"Environmental Security: The Middle East Region,"
Capt William Casebeer, University of California,
"Russian Submarines, Nuclear Waste, and a Model for International Cooperation"
Dr Charles Krupnick, 34th Education Group, USAFA,
"Interagency Cooperation on Environmental Security: The White House and Beyond"
Lt Col Harold Bidlack, Department of Political Science, USAFA
- 1545-1700 (H-2) Panel 5: Regional Security—Post-Cold War Transitions and Stability, Dr James Smith, Director INSS, Chair
- "Democratization of the Socialist Republic of Viet-Nam
C1C Thanh N. Dinh, CS-38, USAFA,
"Promoting Human Rights in Cuba's Post-Castro Military"
LTC Jeffrey Addicott, USSOUTHCOM,
"Emerging Arrangements in Southeast Asia"
Maj Matthew A. Long, Department of Political Science, USAFA
- 1710 Buses depart for hotel
- 1830 Buses depart hotel for Cactus Rose restaurant
- 1845-1930 No-host reception at Cactus Rose restaurant
- 1930-2100 Banquet and Keynote Address,
Gen James P McCarthy (USAF, Retired)
- 2100-2115 Presentation of research awards
INSS Outstanding Academy Researcher Award, presented by
Brig Gen David A. Wagie, Dean of the faculty, USAFA
Maj Gen Robert E. Linhard Outstanding INSS Researcher Award, presented by
Col Thomas "Dutch" Miller, AF/XONP
- 2130 Buses depart for hotel



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AGENDA

FRIDAY, 20 NOVEMBER

Fairchild Hall, Lectinars L-2 and L-10 (third floor)

0800 Buses depart hotel for Fairchild Hall
0830-0845 Refreshments

- 845-1030 **(L-2) Panel 6: USAF Issues—Lt Col Van Tassel, OSD/S&TR, Chair**
"Lessons Learned from Privatization at Newark AFB and the Effects of Privatization on AF Missions"
Maj Gregory A. Cate, 89th Contracting Squadron,
"The Next Peace Operation: USAF Issues and Perspectives"
Capt William C. Thomas, HQ AFDC,
"Integrated Intelligence Operations: A Prerequisite to Force Protection"
Capt Sean Cantrell, 315th Training Squadron,
"F-16 Uninhabited Air Combat Vehicles"
Maj Kenneth Thompson, SAF/IW
- (L-10) Panel 7: Regional Security—Arms Transfers, Col Richard M. O'Connor, SAF/IAL, Chair**
"Co-production in the Middle East: Engagement or Entanglement?"
Col (S) James E. Moschgat, 612th Combat Plans Squadron,
"The Modernization of Latin American Armed Forces: Making Latin American Air Forces Fully Interoperable with the US Air Force"
Lt Col Daniel L. Scott, NAOC Intelligence Branch,
"Arms Transfers and Latin American Domestic Defense Production"
Lt Col Antonio L. Palá, Department of Foreign Languages, USAFA, and *Dr Frank O. Mora*, Rhodes College
- 1015-1130 **(H-2) Panel 8: Regional Security—NATO Enlargement, Col Dave Anhalt, OSD/Net Assessment, Chair**
"Public Opinion and NATO Enlargement"
Dr Robert Dorff, US Army War College,
"The New NATO"
Col Samuel Grier, Department of Computer Science, USAFA, presented by
Maj Mark Gose, Department of Political Science, USAFA,
"NATO: Potential Sources of Tension"
Lt Col Joseph R. Wood, French Joint Defense College, Paris
- 1140-1230 Lunch, Staff Tower, Mitchell Hall (cadet dining facility)

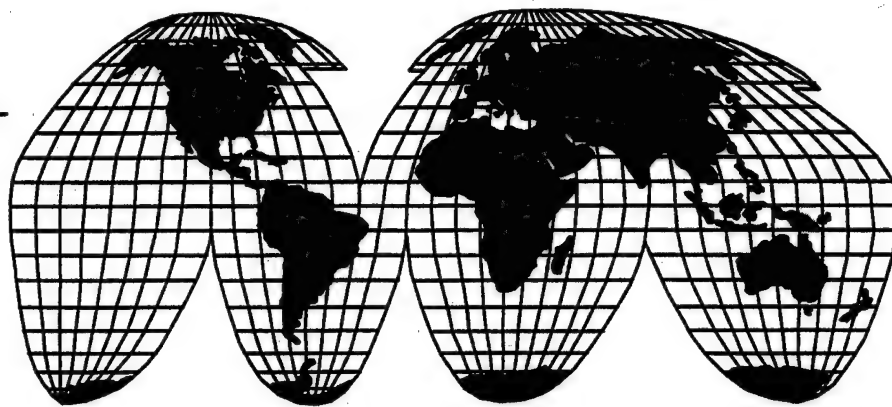


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AGENDA

- 1245-1400 (L-2) Panel 9: Regional Security—Russia and Eastern Europe, COL Jeffrey D. McCausland, , US Army War College, Chair**
- "Juggling the Bear: Assessing NATO Expansion in Light of Europe's Past and Asia's Future"
Col (S) David Fadok, JCS/J-5,
"NATO's Identity at the Crossroads: Institutional Challenges Posed by NATO's Enlargement and Partnership for Peace Programs"
Maj Marybeth P. Ulrich, Department of Political Science, USAFA
"NATO Enlargement and the Baltic States: In the Interest of European Security"
Capt Stephen Lambert, 34th Education Squadron, USAFA
- 1245-1400 (L-10) Panel 10: Space Policy—Col Jim Painter, USSPACECOM/J5X, Chair**
- "How the Current View of the Air and Space Environment Influences Development of Military Space Forces,"
Maj Steven M. Rothstein, School of Advanced Airpower Studies,
"Full Spectrum Transition: Initiatives for Integrating Air and Space,"
Lt Col Guy M. Walsh, USCENTCOM/J-3
"Space, Commerce and National Security"
Col Frank Klotz, Defense Intelligence Agency
- 1400-1415 (L-2) Concluding Remarks**
Colonel Thomas "Dutch" Miller, HQ USAF/XONP
Dr James M. Smith, Director, INSS
- 1420** Van departs for hotel



List of Participants

1998 Research Conference

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PARTICIPANTS LIST

Dr M E Ahrari
Armed Forces Staff College
Professor of National Security
7800 Hampton Blvd
Norfolk, VA 23511

Lt Col Richard W. Aldrich
University of Houston
7500 Kirby Drive, #932
Houston, TX 77030
713-838-9970

Col Dave Anhalt
OSD/NA
The Pentagon, Room 3A930
Washington, DC 20301-2950
703-697-1312

Col Carla D. Bass
694IG/CC
Commander
9805 Love Road, Suite 213
Ft Meade, MD 20755-5260

Col Joe Bebel
JMIC
ATTN: MCE
Bolling AFB
Washington, DC 20340-5100
202-231-3280

Mr Preston Bryant
Air University Press
AU/OAS/PR
17 W. Selfridge Street
Maxwell AFB, AL 36112-6610
334-953-4941

Dr Kent Butts
Army War College
Center for Strategic Leadership
Box 380
Carlisle Barracks, PA 17013-5050
717-245-3728

Capt Sean J. Cantrell
315 TRS
154 Canberra Street, Ste. A
Goodfellow AFB, TX 76908
915-654-4939

Dr Katherine Carson
HQ USAFA/DFEG
2354 Fairchild Drive
USAF Academy, CO 80840

Capt William D. Casebeer
University of California
379 Islander Street
Oceanside, CA 92054
760-966-2616

Maj Gregory A. Cate
89th Contracting Squadron
PO Box 1335
Clinton, MD 20735
301-981-1268

Lt Col Clay Chun
34ES/CC
2354 Fairchild Drive, Ste. 6A26
USAF Academy, CO 80840-6264
719-333-3255

Dr Will Curtis
USNA
Department of Political Science
Annapolis MD 21402
410-293-6861

Lt Col Royce H. Dasinger, PhD
Air Command and Staff College
Department of Research (PhD)
225 Chennault Circle, Room 1112
Maxwell AFB, AL 36112-6426
334-953-2308

Col Jim Davis
Air War College
325 Chennault Circle
Maxwell AFB, AL 36112
334-953-4849

6th ANNUAL RESEARCH RESULTS CONFERENCE
19-20 November 1998

PARTICIPANTS LIST

Maj Kevin Degnan
HQ USAF/XOOC
Checkmate Division
1520 Air Force Pentagon
Washington, DC 20330-1520
703-693-1036

LCDR David R. Diorio
U.S. Strategic Command
Special Assistant to CINC
4605 Longuen Street
Padillion, NE 68133
402-294-7466

Dr Robert Dorff
US Army War College
Box 383
Department of National Security & Strategy
Carlisle Barracks, PA 17013-5050
717-245-3273

Col (S) David Fadok
JCS/J5
NATO Division
The Pentagon, Room 2D956
Washington, DC 20318-5000

Col Raymond Franck
HQ USAFA/DFEG
Professor & Head
2354 Fairchild Drive
USAF Academy, CO 80840
719-333-3080

Dr Abigail Gray
ACSC/DER
225 Chennault Circle
Maxwell AFB, AL 36112-6426
334-953-2308

Lt Col Larry K. Grundhauser
13th Intelligence Squadron (ACC)
Commander
19674 Henderson Avenue
Beale AFB, CA 95903-6367

Dr Sami G. Hajjar
Department of National Security & Strategy
Director, Middle East Studies
Root Hall, Box 360
US Army War College
Carlisle, PA 17013-5050

Ms Diana Heerdt
HQ USAFA
2354 Fairchild Drive
USAF Academy, CO 80840

Maj Michael D. Herndon
HQ AFSPC/XPIP
150 Vandenburg St., Suite 1105
Peterson AFB, CO 80914-4270
DSN 692-5319
719-554-5319

Mr William Holtkamp
DSWA
Counterproliferation Division
6801 Telegraph Road
Alexandria, VA 22310-3398
703-325-1234

Lt Col Roy E. Horton, III.
91st Intelligence Squadron
Commander
9827 Love Road
Ft George Meade, MD 20755

Mr Robert E. Jarrett
AEPI
Director Of Research
Georgia Institute of Technology
430 10th St. NW, Suite S206
Atlanta GA 30318-5768
404-892-3099

LTC Kevin D. Johnson
Joint Military Intelligence College
7727 Beulah Street
Alexandria, VA 22316

6th ANNUAL RESEARCH RESULTS CONFERENCE
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PARTICIPANTS LIST

Capt David R. King
HQ USAFA/DFM
2345 Fairchild Drive
USAF Academy, CO 80840
719-333-2731

Col Frank Klotz
ASD/Strategy & Requirements
The Pentagon, Room 4B856
Washington, DC 20301-2900
703-276-3967

Dr Charles Krupnick
HQ USAFA/DFPS
2354 Fairchild Drive
USAF Academy, CO 80840

Capt Stephen Lambert
34EDG
2354 Fairchild Drive, Suite 6A19
USAF Academy, CO 80840

Dr Jeffrey A. Larsen
SAIC
Suite 300
Greenwood Village
6021 South Syracuse Way
Denver, CO 80111
303-773-6900

Col Boyd B. Lease
HQ AFTAC/XP
1030 South Highway
Patrick AFB, FL 32925-3002
407-494-6401

Maj Mark Lindsey
HQ USSPACECOM/J35
250 S. Peterson Blvd., Ste. 116
Peterson AFB, CO 80914-3120
719-554-2643

Professor George Mastroianni
HQ USAFA/DFBL
2354 Fairchild Drive
USAF Academy, CO 80840
719-333-3860

LTC James Maye
US Naval War College
686 Cushing Road
Newport, RI 02840

General (Ret) James P. McCarthy
HQ USAFA/DFPS
Olin Professor of National Security
2354 Fairchild Dr., Suite 6230
USAF Academy, CO 80840-6258
719-333-2746

Col Jeffrey D. McCausland
US Army War College
Carlisle Barracks, PA 17013-5050
717-245-4711

Mr Frank O. Mora
Rhodes College
International Studies Department
2000 North Parkway
Memphis, TN 38112
901-843-3573

Col (S) James E. Moschgat
612 Combat Plans
5340 E. Gafford Way, Suite 108
Davis-Monthan AFB, AZ 85707
520-228-2082

Col Hans Mueh
HQ USAFA/DFC
Professor & Head
2354 Fairchild Drive
USAF Academy, CO 80840
719-333-2960

Col Gunther Mueller
HQ USAFA/DV
Vice Dean
2354 Fairchild Drive
USAF Academy, CO 80840
719-333-2468

6th ANNUAL RESEARCH RESULTS CONFERENCE
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PARTICIPANTS LIST

Col Douglas J. Murray
HQ USAFA/DFPS
Department Head
Political Science Department
USAF Academy
Colorado Springs, CO 80840
719-333-2270

Col Richard M. O'Connor
SAF/IAL
1080 Air Force Pentagon
Washington, DC 20330-1080
DSN 425-8866

Lt Col Owens
OSIA
Attn: IOS
PO Box 17498
Washington, DC 20041-0498
703-810-4252

Col James Painter
HQ USSPACECOM/J5X
250 South Blvd., Suite 166
Peterson AFB, CO 80914-3130
719-554-9640

Lt Col Antonio L. Pala
HQ USAFA/DFP
2354 Fairchild Drive
USAF Academy, CO 80840

Maj Michael "M.J." Peterson
Air University
Airpower Journal
Editor
401 Chennault Circle
Maxwell AFB, AL 36112-6428
334-953-5322

Capt Mike Platteel
50th OSS
300 O'Malley Avenue, Ste. 26
Schriever AFB, CO 80912-3026
719-567-6463

Lt Col Jim Pocock
HQ USAFA
Department of Civil & Environmental
Energy
2354 Fairchild Drive
USAF Academy, CO 80840
719-333-3150

Maj Greg Rattray
HQ USAF/XOIWD
1480 Air Force Pentagon, Room 4B879
Washington, DC 20330-1480
703-697-9391

Lt Col James L. Rodgers
HQ USAF/XOIWO
1480 AF Pentagon
Room 4B879
Washington, DC 20330-1480
703-697-9390

Mr Scott Sager
ACIS
4W03 NHB CIA Headquarters
703-874-5464

Maj Blair Schantz
HQ USAFA
Department of Civil & Environmental
Energy
2354 Fairchild Drive
USAF Academy, CO 80840
719-333-3150

Lt Col Daniel L. Scott
NAOC Intelligence Branch
Chief
Suite 19, Building 524
102 Looking Glass Avenue
Offutt AFB, NE 68113-3150

Lt Col John Stauffer
HQ USAF/XPXS
1070 Air Force Pentagon
Washington, DC 20330
703-614-7831

6th ANNUAL RESEARCH RESULTS CONFERENCE
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PARTICIPANTS LIST

Col Randall J. Stiles
HQ USAFA/DPE
2354 Fairchild Drive
Suite 4K25
USAF Academy, CO 80840-6218
719-333-2311

Mr Stewart H. Stout
USAIRSPACE
Mail Code MOSC-ZC
Operations Research Analyst
1670 N. Newport Rd
Colorado Springs, CO 80916
719-554-8776

Col (S) Larry Strawser
HQ USAFA/DFER
Director of Research
2354 Fairchild Drive
USAF Academy, CO 80840
719-333-4195

Col Robert L. Sutton
AWC/DFC
325 Chennault Circle
Maxwell AFB, AL 36112
334-953-4367

Ms Dee Taylor
HQ AU/XOOC
55 LaMay Plaza
Maxwell AFB, AL 36112-6335
334-953-5409

Capt William C. Thomas
HQ AFDC
155 N. Twinning Street
Maxwell AFB, AL 36112
334-953-8155

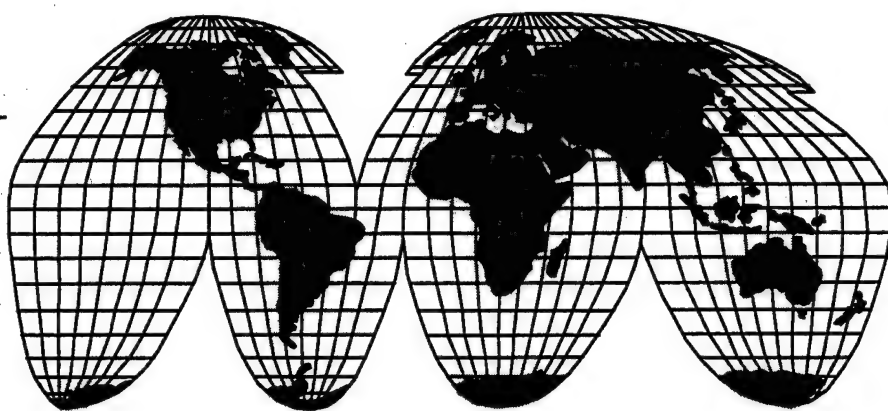
Maj Chip Thompson
SAF/IAW
6418 Overhill Road
Falls Church, VA 22042
703-588-8832

Maj Marybeth Ulrich
HQ USAFA/DFPS
2354 Fairchild Drive
USAF Academy, CO 80840

Lt Col (S) Alan Van Tassel
ASD/Strategy & Requirements
The Pentagon, Room 4E831
Washington, DC 20301-2900
703-697-7728

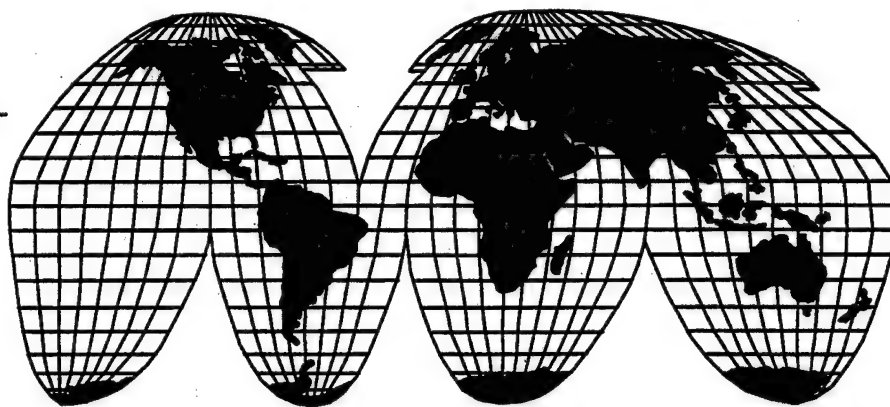
Brig Gen David Wagie
HQ USAFA/DF
Dean of the Faculty
2354 Fairchild Drive, Ste. 6F26
USAF Academy, CO 80840
719-333-2468

Lt Col Guy M. Walsh
US CENTCOM/CCJ3-OA
7115 S. Boundary Boulevard
McDill AFB, FL 33621-5101
813-828-6232



Summary of Conference Proceedings & Discussion

1998 Research Conference



Opening Session

**Col Gunther A. Mueller, USAFA
Col Thomas "Dutch" Miller, AF/XONP
Dr. James M. Smith, INSS**

1998 Research Conference

OPENING SESSION

Col Gunther A. Mueller, Vice Dean, US Air Force Academy (HQ USAFA/DFV) welcomed everyone attending the 6th Annual Research Results Conference. He thanked all the participants and sponsors of INSS, and explained the benefits of INSS for both the Academy and the Air Force overall. Not only does INSS provide support to researchers at the Academy but it also brings events, like this, to the USAF Academy campus, which profits everyone. He wished the participants a highly successful conference.

Col Thomas "Dutch" Miller, Chief of the Policy Division, Nuclear and Counterproliferation Directorate (HQ USAF/XONP) also welcomed participants and expressed his pleasure at the number of persons at the conference—one of the largest ever. Col Miller expressed his support for the ideas and goals of the INSS, and urged sponsors to continue to back this endeavor. Each year, he has seen the quality of research increase and has been very proud to be a part of INSS. Col Miller explained that he sees INSS's value as two-fold.

First, there are a lot of issues in this changing environment that the military simply does not much know about. The post-Cold War environment is continuing to evolve. There have been tremendous advances and changes in technology and operations in space, information, the environment, and others. Regional issues continue to surface. INSS helps the Air Force understand these complex changes and make sense of them, by providing support for researchers to step back from the day to day and think about larger issues of the day. Second, Col Miller emphasized that INSS sponsors support military researchers. In the past, there have not been sufficient venues to support military members to do research that has an operational or policy impact. He feels INSS goes far in filling the gap. He concluded by wishing everyone an informative conference and challenged sponsors to continue to support INSS.

Dr. James Smith, Director of INSS, then welcomed participants and provided a brief overview of INSS. The mission of INSS, Dr. Smith explained, is really two-fold: To promote research and to promote outreach or dissemination of the research. INSS does the former through sponsoring researchers and the latter by providing venues to ensure the research reaches the decision-makers it needs to, through conferences such as the 6th Annual Research Results Conference.

As background, Dr. Smith explained that INSS was started in 1992, initially as a research arm of AF/XONP. Since then, it has expanded significantly. During its first six years, INSS has sponsored or been associated with 400 projects—and, over 700 researchers located worldwide at over 30 schools, including the Service Academies, civilian universities, and others. While the growth has been explosive, it has tended to slow some from the first few years, when researchers doubled almost annually.

The intent of INSS is to sponsor or encourage research that projects out 3-5 years. Rather than focusing on the "in-box" or immediate issues, INSS, due to both turnaround time and philosophy, encourages projects that have value either in the immediate or long-term.

Dr. Smith then explained the internal research cycle, which starts off with an annual Projections conference in May to develop a list of potential research topics to distribute in July. The Research Results conference is the culmination of the previous year's research.

In terms of sponsoring agencies, Dr. Smith named the following:

- HQ USAF/XONP
- HQ USAF/XOI
- Defense Threat Reduction Agency
- Army Environmental Policy Institute
- OSD Net Assessment
- US Space Command
- HQ USAF/XPPX

Research topics, Dr. Smith explained, tend to fit closely with sponsors' interests, and thus, include: Arms control, counterproliferation, planning, regional security, information warfare, environmental security, and space policy.

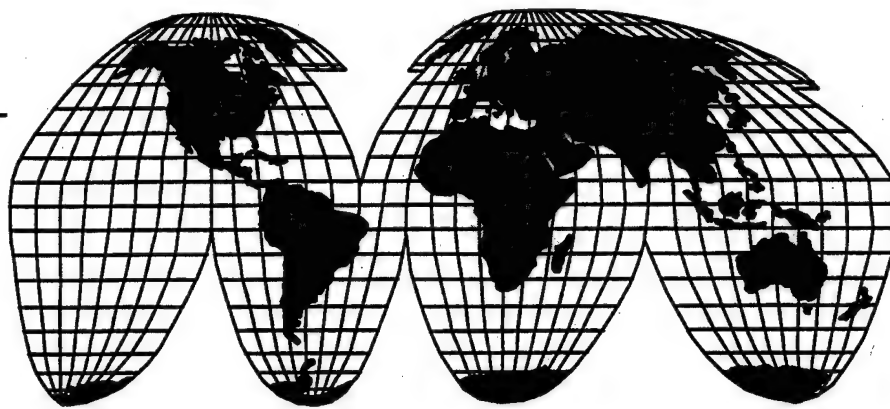
Dr. Smith also addressed the mutually beneficial aspects of INSS, for both the sponsoring organization and the researcher. What do sponsoring agencies get out of INSS? First, he believes it maximizes the return for research dollars, since funding is very low for the quality of product received. Second, providing support to outside and diverse researchers helps inject fresh thinking into the planning process. It also taps military academic community to get them thinking about issues that the organizations care about and creates a pool of topical and regional experts. Finally, it helps provide a means for educating Air Force and DoD on defense policy issues, and acts as a focal point for networking and exchanging ideas between the policy and academic communities. In terms of advantages to researchers, it enhances professional development, allows researchers to work real issues that meet sponsors' needs, which helps showcase the value of research. Finally, INSS helps offset the decline in resources going to support military research and provides a potential venue for publishing and disseminating ideas.

INSS is proud of its accomplishments. Dr. Smith described the numerous INSS publications to date: Three recently-published books were edited by INSS staff; 21 Occasional Papers have been published; and the *Airpower Journal* has showcased a number of papers funded by INSS. As for fiscal year 1998, INSS can claim the following:

- 100 projects, 143 researchers funded at a cost of \$286,000;
- \$39,000 to host or support 12 conferences;
- Five Occasional Papers were produced;
- INSS averaged 1 INSS-supported article per issue of *Airpower Journal*;
- The INSS website, which hosts all Occasional Papers and Electronic Reports received over 13,000 hits since 1 January 1997; and,
- INSS hosted its second IREX fellow: Vakhtang Maisaia from Tbilisi, Georgia.

More recently, INSS sponsored or participated in three events (INSS Fissile Materials Workshop, INSS/NPEC Faculty Seminar on Teaching Nonproliferation, and the 6th Annual INSS Topical Conference), and published the edited volume *Countering the Proliferation and Use of Weapons of Mass Destruction* (New York: McGraw Hill, 1998).

In closing, Dr. Smith explained INSS's vision of the future: "Be the Air Force institute of choice for promoting, coordinating, and disseminating vital national security research that influences DoD policy development." He closed the opening session by introducing and thanking his staff and expressing his desire that the conference be both informative and interactive.



Panel 1.
Arms Control

Lt Col Alex Ivanchishin, Chair
LTC Kevin D. Johnson
Capt David R. King
COL Jeffrey D. McCausland

1998 Research Conference

PANEL 1—ARMS CONTROL

Chair: Lt Col Alex Ivanchishin, AF/XONP
Panelists: LTC Kevin D. Johnson, Joint Military Intelligence College
Capt David R. King, Department of Management, USAFA
COL Jeffrey D. McCausland, US Army War College

PANEL PRESENTATIONS:

"Fundamental Deterrence and START III," LTC Kevin D. Johnson

LTC Johnson introduced his presentation by explaining that the project was the culmination of one year of research, conducted by himself and a team of others at Harvard University, including Cmdr. Mark E. Ferguson, III, USN and Lt Col William H. Walker IV, Air National Guard. The purpose of the research was to chart a course for national security and START III. With recent indicators that START II may be ratified by the *Duma*, he felt the topic was particularly timely. He also noted that the team had no special access to classified material but used only open source documents.

LTC Johnson explained some of the authors' basic contentions. Their first set of contentions addressed the changing environment surrounding nuclear arms reductions and the United States' and Russia's security concerns. LTC Johnson and his research colleagues believe that US national security problems do not have nuclear solutions. Nuclear weapons are simply not as valuable to the US since the implosion of the Soviet Union. However, they noted that this was not the case in Russia, where nuclear weapons potentially address many of that country's external security threats. He also noted that there is a huge gap between the US and Russia versus the rest of the international community in terms of nuclear weapons. This gap undermines both American and Russian "moral authority" with regard to Article 6 of the Nonproliferation Treaty (NPT), particularly given both US and Russia's reluctance to move to further reductions.

LTC Johnson went on to articulate the authors' second set of contentions:

- US nuclear strategy is slowly changing, including moving away from launch-on-warning.
- Deterrence could be effectively maintained at even lower levels than those negotiated under START II.
- This contention led to examination of the TRIAD. While many feel that the TRIAD is essential, LTC Johnson and his research colleagues challenged that argument. They believe that the threat to Europe is minimal and the threat of a purposeful nuclear war with Russia has decreased dramatically. Thus, the TRIAD is increasingly redundant. This is in contrast to those that advocate the TRIAD based on their belief that the US requires Intercontinental Ballistic Missiles (ICBMs). However, his team argued, if ICBMs are kept as a hedge, break-out could occur, which would be highly de-stabilizing. If maintaining a hedge is necessary, LTC Johnson and his team assert that the US should *not* negotiate START III.
- Russian strategic forces will shrink due to economic pressures, regardless of the *Duma*'s actions. Therefore, the authors believe that Russia will ratify START II in order to retain leverage, but feel that passage will be conditional.

Fundamental deterrence, the authors argue, has to do as much with the relationship between the US and Russia as it has to do with nuclear weapons. Given the changing relationship, the US and Russia possess significantly larger arsenals than mutual and national security considerations require. They could achieve fundamental deterrence with much smaller,

survivable, retaliatory forces and no more than 2000 deployed strategic nuclear warheads. The "quantity parity" is less important than "quality equality," based on survivable nuclear weapons and superior C³I capabilities. In this respect, the US and Russia are not equal, since Russia's capabilities are significantly degraded. In fact, if "quality equality" were the goal, Russia could justifiably argue for more mobile ICBMs, while the US has sea-based nuclear weapons.

LTC Johnson then outlined what his team advocated as provisions to include in START III:

- Two stage reductions to 2000 deployed nuclear warheads.
- Prohibit undefended, fixed ICBMs, calling for early de-activation of these weapons.
- Destroy weapons associated with START delivery systems (eliminate hedge).
- Limit nonstrategic weapons stockpiles.
- Ensure quality, not quantity, parity:
 - Permit mobile single warhead ICBMs
 - Permit MIRV'd SLBMs.
- Encourage modernization.
- Negotiate START III in conjunction with nonstrategic nuclear weapons reductions and the fissile material production cut-off to eliminate a break-out capability; and,
- Encourage transparency and bilateral controls of nuclear weapons inventories.

Having made these recommendations, LTC Johnson acknowledged some of the arguments against such proposals, which are outlined in their paper. The team believes that the time for arms control is now. The US has significant leverage with Russia due to economic pressures to reduce nuclear weapons in that country, but the US still has an incentive to negotiate since Russia could reduce in a de-stabilizing manner. While the team believes these moves are possible, they also caution not to underestimate the difficulties in pursuing this path.

DISCUSSION:

Following his presentation, LTC Johnson responded to questions regarding his research. In answer to the first question on the type of force structure the researchers envision under their proposed lower numbers, LTC Johnson referred the audience to the appendix of their paper which includes a sample of model force structures. Another participant questioned LTC Johnson on the idea of the *Duma* imposing conditions on passage, especially tying START II to START III, which the participant agreed was likely. Why should the US consider conditions, in light of the fact that the US holds most of the cards—not only financially but strategically (through missile defense). LTC Johnson thinks START III would serve, in many ways, the same goals as missile defense, i.e., by reducing the number of warheads in the Russia arsenal the US is defended from them.

Some of the discussion centered on which launchers START III should address. One participant questioned LTC Johnson's assertion that fixed and ground-based ICBMs were vulnerable, given that they reside on the homeland and attacking them would mean certain retaliation. The US could maintain them but leave them undefended. LTC Johnson disagreed. If they are not important enough to defend, then the US should eliminate them. Moreover, eliminating them provides a "carrot" to Russia to encourage them to cooperate.

Another person asked about the idea of warhead reductions, rather than launchers, in light of how difficult warhead reductions are to verify. The author responded that warhead reduction is

not impossible to verify, although it could require increasingly intrusive verification means. Nevertheless, LTC Johnson argued, the INF treaty shows that it can be done (although elimination is easier to verify than reductions). Another person asked whether the paper's numbers take into account other nuclear powers or are based on what the authors feel are the number of warheads the US needs vis-à-vis Russia. LTC Johnson reiterated his point that nuclear weapons are not useful to solving US security issues with other countries.

Another participant commented that the discussion would benefit from a greater focus on Russian national security. While the paper tended to emphasize quantity of warheads, quality issues are more important, especially Russia's failing command and control. He also asked what LTC Johnson felt would be the likelihood of the US foregoing START II altogether for START III if the *Duma* does not act on START II in the near future. LTC Johnson believes that such a move would be possible, although advocating that idea is currently unacceptable since the US has made negotiating START III contingent upon Russian ratification of START II.

Focusing on START III, one person questioned LTC Johnson on whether there might be other reasons that the US should not pursue such an agreement, beyond the hedge/break-out scenario—such as incentives for the *Duma* to attach conditions to START II. LTC Johnson argued that Russia financially needs to reduce its arsenal, and he believes the *Duma* is smart enough to push negotiations as far as possible—but not to the breaking point. However, he pointed out other possible vulnerable areas that may make START III look less attractive. President Yeltsin's uncertain political future could portend policy reversals. Also, if Russia is not willing to consider reducing some of its nuclear infrastructure, nor including nonstrategic nuclear weapons in the debate, START III would be less desirable.

PANEL PRESENTATION:

"Interpreting Shadows: Arms Control and Defense Planning in a Rapidly-Changing Multi-Polar World," Capt David R. King

Capt King explained that his interest in the topic developed out of his frustration that the US did not develop a new national strategy even though the Cold War ended. His research focused primarily on literature reviews to get a sense of other worldviews, to see what has been successful, and develop a framework for policy options. He asserted that the post-Cold War world is significantly different; yet, the mind-set and perspective of policy makers are remarkably unchanged. Unfortunately, the continuation of Cold War policies will not solve the problem of proliferation.

To begin, Capt King outlined some common worldviews held by US decision-makers. These include a focus on domestic issues; a continuation of balance of power thinking; an emphasis on global leadership and international norms; a desire to spread Western values; and, the need to act with autonomy in foreign policy. In contrast, Russia tends to stress arms sales as a means to solve its debt problems and see its role as one of balancing the US. China has an economic focus and is rapidly-expanding its power. By 2015, many experts project that China will have a larger economy than the US. It is one of the few countries where spending on defense is increasing in real terms. China sees itself as having to resist American influence.

Regional powers, Capt King explained, see the end of the Cold War as the end of forced stability, where boundaries and ideological leanings were "frozen" by superpower conflict. Thus, regional powers are both internally and externally less stable. The increased activism of the US is viewed as a threat. Thus, many see a need to develop weapons of mass destruction (WMD). One

of the upshots of this dilemma is that balance of power is back, albeit different. Multi-polar elements are less stable and America has less influence than it used to have. Other nation-states are seeking to balance US interests, either individually or as a coalition, and there are "too many potential geographic areas and functional areas of potential conflict" for the US to maintain only a few policy tools.

Capt King then reviewed the different policy options for the US. Nuclear weapons cannot be relied on for deterrence, since he does not believe their use is very credible. Moreover, they undermine US nonproliferation efforts; US conventional superiority has a greater deterrent value since it is more credible. However, further development is needed if the US is to rely on conventional weapons as its primary means of deterrence.

He then reviewed economic policy options. One option is for the US to employ sanctions. While these used to be effective, the ability to coerce change is decreasing due to overuse—over 35 nations are currently under some form of sanction. Moreover, if they are applied unilaterally, they have little effect. Export controls have many advantages and can be used to support treaties. However, the US tends to sell dual-use technologies to nation-states that are not part of the inspection regime. For example, the US sold robotics technology to India, which it then used in its nuclear weapons development program. The US could buy compliance, as well, as it has with Russia—giving them currency in exchange for dismantling weapons. Capt King believes that this approach can be highly successful in the short term, but risks setting a bad precedent where other countries might expect monetary gain in return for compliance. Finally, the US has the option of providing military assistance. Capt King felt this option is a good one, but should be tied to conditions regarding basing agreements and that assistance should target infrastructure, which the US needs for deployment.

Another policy option Capt King explored is confidence-building measures (CBMs). These are advantageous since they provide a mechanism to open dialogue between countries and they establish a means of improving relationships. However, for them to be successful, Capt King noted that they require significant work; they are not a less intense policy option.

With these policy options in mind, Capt King recommended a framework for conducting policy focusing on two initiatives, the conventional "triad" and diplomatic initiatives. Focusing on conventional weapons would ensure that the US has the capabilities to do what it needs to do in the world. This would require that the US invest in and emphasize developing rapidly deployable forces, regional ballistic missile defense systems, and long-range precision strike capabilities. Diplomatic initiatives could then focus on an information strategy to decrease the desirability of weapons of mass destruction (WMD) through: 1) improved export controls, especially ceasing the process of selling dual-use technologies to those who are not part of an inspection regime; 2) military assistance, tied to basing agreements; and 3) confidence building measures.

Capt King concluded his presentation with the following points:

- A new strategy will emerge to address post-Cold War challenges.
- Arms control remains important but the focus has changed, from a US/Russian focus to one that must include all nation-states; and,
- Two new areas need further exploration—the role of non-governmental organizations (NGOs) and the impact of technology diffusion.

DISCUSSION:

Capt King had a brief period to entertain questions following his talk. Initial discussion focused on the difficulty of convincing rogue states and others that acquiring WMD is not a viable or positive move, given that possession of WMD can yield some real advantages, especially for a state that is not concerned about being isolated from the international community. While the task is difficult, Capt King believes that the issue has not received the focus it deserves and therefore there may be solutions the US has yet to hit upon. In the meantime, he stressed the idea of creating norms that de-legitimize acquisition and use, although the US is in a tenuous position here, given its nuclear arsenal.

Another participant followed up with a question on whether the US should focus less on countries that proliferate and more on those countries that choose not to acquire WMD. Capt King stated that this could be a profitable investigation, but believes that countries that try to acquire WMD tend to be motivated by regional security concerns. However, there are interesting cases where this has been reversed, e.g., Argentina and Brazil, so understanding how to intervene can have positive results in stemming proliferation. Secondly, Capt King reiterated his point on the message that the nuclear powers or "haves" send to the "have nots" about nuclear weapons and their values. If the US were to emphasize conventional weapons more, it would send a more positive message.

The discussion then turned to the issue of cultural values and the role they play in worldviews. Capt King said that, surprisingly, while many people talk about rogue states' cultural values, they fail to look at the US and its value structure. The US, for example, tries to remake the world in its own image, believing that the American way is the right way. However, not all countries desire this path or identity; this fact is difficult for America and the American people to understand. Another aspect of US culture is an emphasis on violence or power—a value shared by some, but not all in the international community.

One participant asked Capt King about his mention of a "coalition against the US." Did he have a specific coalition in mind? Capt King explained that he did not have a specific coalition in mind, but rather, was extrapolating from history where coalitions form to counter hegemony, for example the *Pax Romano/Britain* and the US. Historically, no hegemon has gone unchallenged forever. While he is not sure where the next challenger would arise from, he believes that China is a likely candidate.

As a point of clarification, one participant asked Capt King whether military assistance should be tied to use of a particular base or to basing agreements more generally. Capt King responded that he meant the latter. The US rarely has a base or presence where it needs it, since conflict can crop up anywhere. Thus, the US would be better served to have agreements in place rather than depend on certain forward-deployed bases.

Finally, one participant asked what Capt King sees as the optimal way to balance export control with arms sales. Providing technology is sometimes a leverage to prevent another country from selling arms to rogue states. Capt King felt the US could do more in "economic balancing," such as reimbursing states that choose not to sell technology or arms to others, although he prefers assisting with infrastructure development rather than providing direct cash assistance.

PANEL PRESENTATION:

"Carts and Horses—Strategy and Arms Control for a New Europe," COL Jeffrey D. McCausland

COL McCausland explained that in his 26 years of experience in European security and arms control, NATO has perpetually been in transition, crisis, or both. While it is one of the most successful alliances in history, it has also been one of the most difficult. Currently, there are four major areas causing tensions in the alliance:

1. Change of the command structure.
2. Sub-regional crises. These are stressing the alliance, both operationally and in broader terms, such as eroding the consensus over NATO's purpose, bringing to the forefront questions regarding the alliance's relationship with the WEU, and forcing NATO to deal with issues of how to involve the Partnership for Peace (PfP) countries.
3. NATO enlargement. COL McCausland emphasized that while many see enlargement as a goal, it is not. It is a policy tool to promote security, not an end in itself. Rather than an event, it is a process. Once the three new members are added, the alliance will need to begin the long-term process of truly integrating them into NATO's structure. NATO will also need to decide how it will address other states desiring membership.
4. Strategic concept reassessment. NATO is grappling with what role it will have in the future, whether it will become a collective defense alliance or continue to be a mechanism to provide collective security only. NATO members must also think through how NATO will position itself vis-à-vis Russia, and how to enhance alliance unity.

Another policy tool, beyond enlargement is conventional arms control. COL McCausland's presentation focused on what role the Conventional Armed Forces in Europe (CFE) Treaty can play in making a positive contribution to European security and how the Treaty will be affected by—and affect, NATO enlargement.

To analyze the issue, he provided a brief historical overview of the CFE Treaty. Originally, it was intended to establish a stable balance of forces in Europe at lower levels than before; eliminate disparities that undermine stability and security; and eliminate the capability for launching a surprise attack. The irony is that since its inception, the major concerns have now been reversed. While the US and Europe used to feel highly threatened, now Russia is most concerned about potential instability and attacks on its homeland.

Geographically, the CFE applies to central regions, but does not expand beyond the Ural Mountains. It covers five major armaments: battle tanks, artillery, armored combat vehicles (ACVs), combat aircraft, and attack helicopters. In terms of accomplishments, the CFE can cite many, including: 58,000 pieces of treaty-limited equipment (TLE) destroyed and 2,300 intrusive inspections conducted. In addition, it achieved the Treaty's goals and has provided a framework consistent with the confidence and security building measures (CSBMs) of the Vienna Document.

Despite its accomplishments, COL McCausland explained, the CFE has not been without its problems—one of which revolves around the flank agreements. The Treaty divides the Atlantic-to-the-Urals (ATTU) into four nested zones with group limits on equipment in each zone, beginning with the Central European states. Following the collapse of the Warsaw Pact, however, the CFE parties agreed to realign the map in such a way as to permit sublimits on TLE in the outer northern and southern zones known as the "flanks." Additional numerical constraints were imposed on TLE in the areas removed from the flank zone to re-assure neighboring states

that Russia and/or Ukraine would not flood these areas with equipment. Despite the agreement, however, Russia continues to maintain more TLE in its flank areas than permitted.

CFE and NATO expansion, however, is a double-edged sword. While CFE could be used to reassure Russia and ease its concerns over NATO enlargement, expansion also complicates the flank issue and CFE adaptation. One proposal is to eliminate zones altogether and move towards a system of national ceilings and territorial limits. Thus, Germany, for example, would have a national ceiling but also be permitted to station US, Canadian, and other European countries' equipment. The ceiling would largely reflect current realities, which are actually lower than the Treaty allows. The compromise would provide a ceiling zonal approach with temporary deployment and stationary forces, creating a "zone of stability." The Treaty would need to include provisions for corresponding adjustments to inspection allocation.

Russia, on the other hand, has been advocating other elements in the Treaty be re-examined. For example, it would like to see additional items Treaty-limited, such as AWACS. It would also like to see peace operation forces be made exempt from TLE. However, this is opposed by many who believe that Russia would merely label operations as peacekeeping missions to avoid Treaty limits. Russia also wants to prohibit stationing permanent forces in the flank areas (precluding the possibility of stationing forces in the Partnership for Peace (PfP) countries) and wants to adopt infrastructure restrictions (mainly on airfields) in these regions. Finally, Russia has suggested that the CFE should adopt an alliance-wide ceiling; thus, as NATO expands, its military hardware would remain constant.

CFE adaptation proposals have been negotiated and attempts have been made to combine the two camp's suggestions and find areas of agreement. So far, it has been determined that national limits should not exceed those allocations for each nation-state under current agreements and rules for handling TLE in storage, among others. But, COL McCausland pointed out, the hard issues remain.

COL McCausland then spelled out the major obstacles to successful adaptation of the CFE Treaty. First, there is a concern in Europe over American unilateralism. A second major consideration is the future of military reform in Russia and what will happen. There is also the "hangover effect" from the CFE Review Conference, where many felt that the US cut a bilateral deal and "forced" it on the alliance. In addition, there is the ongoing problem of the difference in European v. US attitudes on arms control. Whereas the US is more interested in START II, the CFE remains a high priority for Europe. This has been exacerbated with leadership changes in Europe and the desire to cut back defense spending via arms control, and specifically, the CFE.

In conclusion, COL McCausland does not see the prospects for resolving CFE issues as very high, at least in the near term. Between leadership changes, Russia's wrangling with NATO, economic issues, a focus on START II, and other priorities, CFE could be put on the backburner. On the other hand, Russia is pushing for agreement on two "great no's:" No permanent forces and no nuclear weapons stationed on the territory of the new NATO member states.

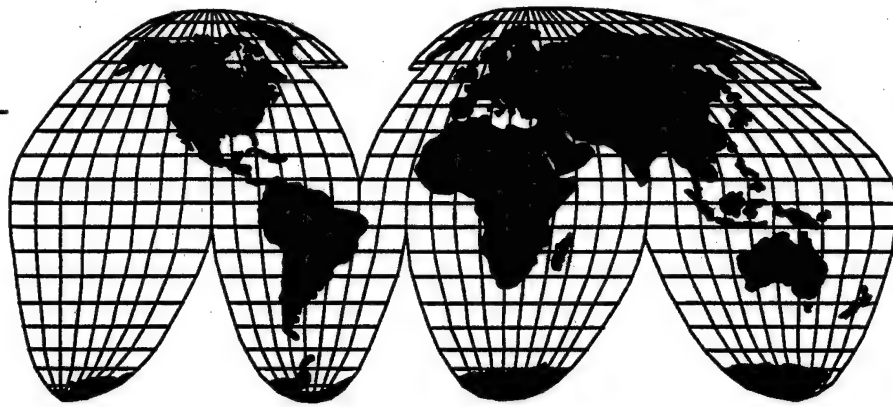
CFE, if used effectively, could make a positive contribution to reassuring Russia through NATO enlargement. However, CFE is not a panacea. Some potential problems on the horizon, include Russian non-compliance with TLE in the flank areas and the fact that, to date, progress has primarily been made when deadlines were looming. There are no major incentives or deadlines currently to force parties to focus on the issues; thus, progress might stall.

DISCUSSION:

Following the presentations, the speakers took questions from the audience. One participant asked whether the international community may have reached a point where arms control is no longer useful. Can we rely on budgets, economics, and the perceived lack of a strong threat to lead to a natural reduction in arms? COL McCausland did not believe so, at least in terms of CFE TLE. Destroying equipment is not cheap, so absent arms control, he did not feel that any country would have an incentive to do so. Moreover, the increase in internal domestic problems tends to work against further reductions. Thus, he does not agree that the market will solve the issue of arms in Europe.

Another person asked COL McCausland what the "cost" of abandoning the CFE would be. For McCausland, the force level issues are probably not as important to the US as they are to Europe and Russia, so there would be a limited cost in those terms to the US if CFE were abandoned. However, the transparency that the CFE has created is highly valuable. That being the case, someone asked, why not focus on transparency, rather than arms control? COL McCausland felt that the two issues were two sides of the same coin. For example, Open Skies has been a much more important treaty than most people recognize. There is a synergy, in COL McCausland's view, between arms control and lowering tensions, permitting more transparency. While transparency is one positive result of the CFE, the Treaty has also helped ensure predictability of force levels and worked to reduce Russian anxiety and uncertainties over NATO expansion.

Another participant addressed a question to both LTC Johnson and Capt King. While the credibility of use of nuclear weapons may be declining, is there a peripheral utility of nuclear weapons? LTC Johnson responded that he did not see a lack of credibility of nuclear weapons, (although Capt King does). Instead, LTC Johnson felt that the *utility* of nuclear weapons is declining. Nuclear weapons, regardless of credibility of use, are not well-suited to today's security issues. LTC Johnson, however, stressed that the paper does not suggest that nuclear weapons be eliminated, but rather, that the US adopt a no first-use policy and emphasize conventional forces. COL McCausland commented that, unfortunately, the exact opposite is occurring in Russia. Due to tight finances, Russia is increasingly emphasizing nuclear weapons, an alarming and de-stabilizing development.



Panel 2.

Counterproliferation

Dr. Jeff Larsen, Chair
Lt Col Roy E. Horton, III
Dr. M. Ehsan Ahrari
Dr. Sami Hajjar

1998 Research Conference

PANEL 2—COUNTERPROLIFERATION

Chair: Dr Jeff Larsen, SAIC

Panelists: Lt Col Roy E. Horton, III, 91st Intelligence Squadron Commander
Dr M. Ehsan Ahrari, Armed Forces Staff College
Dr Sami Hajjar, US Army War College

Dr. Larsen introduced the session by explaining that each paper details a case study of a country where nonproliferation efforts failed, although the South Africa case shows how this failure was ultimately reversed.

PANEL PRESENTATIONS

“Out of (South) Africa: Pretoria’s Nuclear Weapons Experience,” Lt Col Roy E. Horton, III

The purpose of Lt Col Horton’s research was to examine the impact of the Republic of South Africa’s (RSA’s) leadership on South Africa’s progress to develop a nuclear deterrent and the country’s subsequent rollback. Lt Col Horton also examined the impact of US nonproliferation measures on South African decision-making and the interplay between the US dual goals of preventing proliferation and apartheid. Finally, his research sought to draw some lessons that can be applied to other potential nuclear states.

Lt Col Horton summarized his key findings:

- Unfortunately, South Africa demonstrates that a country can achieve a nuclear capability quickly, quietly and relatively cheaply. Similar to India, South Africa had two parallel efforts, a “peaceful detonation” program and a weaponizing program; scientists and engineers were increasingly transferred to the weaponizing side.
- Security concerns drove the pace of both development and rollback. South Africa wanted to be part of NATO but felt increasingly isolated due to its apartheid government. The RSA leadership felt it needed a trump card to pull the US back into the equation. Conversely, when South Africa moved away from apartheid to majority rule, nuclear weapons were more of a millstone or detractor from their goal of moving closer to the West. In short, its goals remained the same—closer alignment with the West, but the best means to achieve this goal changed.
- Nuclear weapons remain the “coin of the realm.” Those who perceive they are excluded from a power position will continue to seek nuclear weapons as a key to the club.
- Proliferation challenges are only likely to worsen.

Lt Col Horton’s research also pointed to some broader issues that are worth further scrutiny. For example, nuclear weapons tend to be linked to national identity, and to the West. As important, nuclear weapons are rarely sought for “rational” reasons of security, but often for political reasons. For example, some could argue that neither India nor South Africa “need” nuclear weapons for their security. However, both felt that nuclear weapons were *politically* important. Lt Col Horton also noted that US policy on nonproliferation tends to lack consistency. In the case of South Africa, the US went from supporting anti-insurgency groups to imposing draconian anti-nuclear measures. As another example, Horton pointed to the fact that South Africa was excluded from sitting on the International Atomic Energy Association (IAEA) board; yet, a pivotal IAEA conference was held in New Delhi, despite India’s obvious interest in developing nuclear weapons. Finally, many potential nuclear powers see nuclear weapons as a

"cheap" deterrent, where 5-6 nuclear weapons could replace a large standing army. As long as these types of views are held, it will be hard to dissuade potential proliferators.

Despite the difficulties, Lt Col Horton advocated that the US take some positive steps to reduce proliferation. He recommended that the international community enforce the nonproliferation regime by ratifying the Comprehensive Test Ban Treaty (CTBT) and concluding a Fissile Material Cut-off Treaty (FMCT). However, Lt Col Horton cautioned that the nuclear-5 need to be careful not to "dictate" the rules to non-nuclear powers. He believes more will be accomplished if the US and others engage in a dialogue with the "have nots," sharing information rather than imposing decisions. In addition he recommended that the US:

- Deny threshold states the opportunity to acquire nuclear weapons, by imposing tighter controls on nuclear technology.
- Understand the nuclear aspirant's point of view, which is vital to understanding its motives. For example, just as South Africa was hoping to attain a closer affiliation with the West, India and Pakistan were partially motivated by issues of respect and desire for inclusion.
- Engage the potential proliferator from its level, e.g., from an understanding of regional security concerns. As an example, Lt Col Horton cited Kashmir as critical to the Indian-Pakistan nuclear tests. Solving regional security problems might mean moving from an international arena to facilitating bilateral or regional agreements.

In terms of lessons, Lt Col Horton is concerned that India and Pakistan are drawing lessons from the Soviet-US Cold War experience. First, the geographic proximity of the adversaries makes nuclear weapons highly dangerous, particularly given the lack of a sophisticated Command and Control (C²) capability. Lt Col Horton recommends that the US intervene now to help put in place C², as opposed to waiting until an even more dangerous situation develops.

As another means to dissuade proliferators, and particularly India and Pakistan, from going further, Lt Col Horton recommended highlighting some of the opportunity costs involved in "going nuclear." According to the Brookings Institute, the US has spent between \$30 – 200 billion on its nuclear force. Many countries are unaware of the "hidden" costs, such as paying for clean-up and protecting citizens from radiation, as well as the costs required for infrastructure. In fact, the two biggest increases in India's defense budget are for nuclear research and development and for developing means of delivery. Stressing to proliferators that they could divert these resources to more productive ends could help in countering proliferation. South Africa, in fact, admitted that it had wasted valuable resources when it moved to develop weapons. He also suggested that the US consider something similar to a Cooperative Threat Reduction (CTR) program for South Asia and the Middle East.

To conclude, Lt Col Horton summarized that South Africa shows that nuclear rollbacks are possible. However, in the case of India-Pakistan, this could require focusing on regional security concerns and solving the Kashmir issue, which would be extremely difficult. The countries involved would have to foster transparency of efforts, while the international community steered clear of policy paths that blur proliferation objectives, such as happened with US policy on apartheid vis-à-vis South Africa. Lt Col Horton expected that gradual progress would likely occur. However, he admitted that the South Africa case was, in many ways, unique and fortuitous.

"Growing Strong: Nuclear Genie in South Asia," Dr. M. Ehsan Ahrari

Dr. Ahrari explained that part of the research support INSS awarded him was used to cover expenses for a trip to India. He arrived two days before the decision was made to detonate a nuclear weapon. Thus, he gained good insights into the mood in the country and the debate, which were extremely helpful in answering the core question of his research "why did India decide to go nuclear?" The second focus of his research was "how should the US respond?" Before discussing the details of his findings, he stated his guiding premise: As much as he opposes nuclear proliferation, he believes the US should accept the fait accompli of India and Pakistan going nuclear and look for realistic solutions to the problem of proliferation.

According to Dr. Ahrari, a primary motivation behind India's decision to go nuclear was to be recognized by its neighbors and the world as a potential great power. There was a growing feeling in India that its adversary, the Peoples' Republic of China (PRC), receives more international recognition, partially because it has nuclear weapons. Related to this, India aspires to permanent membership in the UN Security Council and felt that joining the ranks of nuclear weapons states (NWS) could be a possible means to membership. While this has questionable basis in reality—since it is even more likely that Japan and Germany which are non-nuclear states will attain membership—India believes it to be possible. In addition, India felt it needed to have unfettered access to dual use technologies. As a nuclear threshold state, India was restricted from dual use technologies but, if it is recognized as a NWS, it could possibly negotiate unfettered access in exchange for signing the Comprehensive Test Ban Treaty (CTBT). Finally, there was a growing concern at both the leadership level and in the population over the Sino-Pakistani nexus. While India may find it acceptable to take a backseat to the PRC, when it comes to Pakistan, it cannot; the issue of Kashmir is both too political and emotional for India's leaders to risk appearing complacent.

Another aspect that entered India's calculus was the nonproliferation regime. The extension of the Nonproliferation Treaty (NPT) in 1995 and the passage of the Comprehensive Test Ban Treaty (CTBT) in 1996 intensified India's growing sense of isolation. There was also a growing possibility that the Fissile Material Cut-off Treaty (FMCT) would become a reality, making it more and more difficult for India to test and weaponize, and putting increasing pressure on India to join the regime.

Finally, domestic reasons also drove India's desire to test. There was a high degree of public support for selecting the nuclear option. This factor played into an increasingly threatened minority government, the Indian Peoples' Party (BJP). In addition to diverting public opinion from the BJP's problems and bolstering support, nuclear testing satisfied the scientific community, who had been pressuring the government for testing.

In terms of "what next?" or post-Pokhran II options for India, Dr. Ahrari suggested India might be willing to sign the NPT and the CTBT, provided the West would lift all sanctions, especially those related to dual-use technology. In this case, Ahrari explained, the "West" is a euphemism for the US since no other state is as adamant as the US in refusing India dual-use technologies—nor does any other state have the advanced technologies that India so desires. However, it is unlikely, in Dr. Ahrari's opinion, that India will undo the nuclear option, à la South Africa.

In light of India's stance, the majority of the international community is suggesting some variations on the following options:

- Continue to put pressure on India and Pakistan to undo their nuclear option and halt their respective missile testing.
- Demand that these countries do not weaponize (minimal option); or,
- Continue to use sanctions on both countries. However, the US and the international community will need to put heavier pressure on India, since the Pakistani economy is much weaker already. In fact, Pakistan indicated that it would default on its loan to the International Monetary Fund (IMF) should the US choose this option. Or, more concerning, the US fears that this could drive Pakistan to sell its nuclear technology to the highest bidders in the Middle East.

Beyond these options is the original recommendation of Dr. Ahrari's: The US and the international community should "face the facts" and accept India and Pakistan as nuclear weapon states. Dr. Ahrari admitted there would be costs to taking this tact. Primarily, it could set a bad precedent for other nuclear threshold states. In fact, India and Pakistan cannot be recognized as nuclear weapons states (NWS) without amending the NPT. However, there are also benefits. First, positive US-India ties could be beneficial for the US in terms of the power politics of East Asia. If the US accepted what is really a fait accompli, India and Pakistan, as NWS, would likely cooperate with the US on nonproliferation policies in coming years, just as China did, once it was recognized as a NWS. To conclude, Dr. Ahrari suggested that the US look for realistic options and solutions to the problem of proliferation, rather than trying to reverse what is unlikely to be reversed.

"Security Implications of the Proliferation of Weapons of Mass Destruction (WMD) in the Middle East," Dr. Sami Hajjar

Dr. Hajjar's research, which is based on a variety of research sources, addresses the issue of why nations proliferate, and more specifically, why have some Middle East countries embraced programs to develop weapons of mass destruction (WMD). He believes the research is particularly timely in light of India and Pakistan's nuclear tests and their potential effect on the Middle East. Indeed, some analysts have even raised fears of the potential for an "Islamic bomb," while others have tried to link Israel to India's nuclear weapons progress. Thus, Hajjar believes it is worthwhile to discuss the potential for horizontal proliferation and whether India's move will make other nations anxious to acquire weapons in order to achieve "great power status."

As background, Dr. Hajjar addressed why the US should be interested. First, the US national security strategy names furthering nonproliferation goals as a high priority. Moreover, the US has significant national interests in the Middle East, including oil, advancing the peace process, and effectively dealing with rogue nations—such as Iran, Iraq, Libya, and Syria. In terms of WMD, the US should be particularly interested in the Middle East for a couple of reasons. First, the Middle East is one of the few regions which has experienced WMD use in recent times. Second, there are a number of nations who are suspected of clandestinely pursuing WMD capabilities, including: Israel, Iran, Iraq, Syria, Libya, and other Arab states, such as Egypt, Saudi Arabia, Algeria, and the Sudan.

In Dr. Hajjar's view, the primary engine for proliferation in the Middle East is the Arab-Israeli conflict, with a secondary cause being the Iran-Iraq rivalry. Another contributor is the perception by Arab countries that the US is not even-handed in its treatment of proliferation in the region. But a factor beyond (albeit related to each of these) is what he calls the "interconnectivity" issue. The regional balance of power and balance of interests is highly

connected, with multiple adversaries and ties. For example, Israel and Egypt could achieve peace but maintain their weapons to counter Iran, “feeding” suspicions between Israel and Egypt since capabilities and intentions are difficult to distinguish in an anarchical world. This dynamic is worsened by short and long-range missiles and geographical proximity.

Dr. Hajjar addressed some of the interesting dynamics of proliferation generally. First, he does not believe that the US can ascribe one common motivation for acquiring WMD. For example, while Israel might believe WMD programs are necessary for its survival, other regional actors are developing WMD for prestige reasons, deterrence motivations, or even political reasons. In addition, there are both qualitative and quantitative dimensions. Not only are more and more states acquiring WMD, the lethality of the weapons is increasing, as well. There has also been a shift in targeting doctrine. With the new weapons (primarily chemical and biological weapons (CBW)), states are increasingly targeting civilians. This dynamic is a double-edged sword. While it contributes to deterrence, it also increases the propensity of targeted nations to develop weapons that they can similarly target at civilians. There is also a vertical and horizontal dimension, in the sense that proliferation can be “contagious,” the more WMD is accepted, the more WMD will be found. Finally, Dr. Hajjar reiterated the interconnectivity theme in regards to the Middle East and mentioned the availability of those willing to supply nuclear and other WMD materials to the Middle East, which tends to be a lucrative market for arms and materials.

With this backdrop, Dr Hajjar addressed the issue of proliferation from a regional perspective. What, specifically is going on in the Middle East that contributes to proliferation? First, there is Israel. Israel has made its nuclear program increasingly transparent, thereby putting pressure on others to counter Israel’s capabilities since they can not be “ignored.” Dr. Hajjar called this the “parity imperative” whereby Arab states feel they need to balance Israel, but cannot “balance” nuclear weapons. Another issue is the NPT’s shortcomings, which seem to create incentives to become a NWS. This is complicated by Israel’s position on the NPT. In addition to these dynamics, Dr. Hajjar also mentioned the spiral effect of regional vertical proliferation. While Israel has made it clear that its discrete nuclear arsenal is a means of survival in a hostile territory, other states are skeptical, since they believe that a very small arsenal could serve deterrence objectives. It is estimated that Israel has 200-300 warheads yet they continue to produce more. The more Israel adds to its nuclear arsenal, the more – others believe—that Israel could use them as an instrument of policy. Thus, many states believe that Israel has ambitions to become a regional hegemonic power through exploiting its nuclear capabilities. This fear is worsened by Israel’s refusal to participate in any joint monitoring of its program.

Israel obviously takes a different view. It will not discuss its WMD program, but has been actively pursuing counterproliferation in order to thwart what it sees as potential WMD-armed adversaries, employing WMD offensively. Israel faces three major dilemmas:

- First, should Israel declare itself a NWS and enter into negotiations with Arab countries to reduce WMD? While this might achieve some objectives, it could hamstring further nuclear weapons development.
- Second, although the peace process may ease tensions, potentially slowing or reversing WMD programs in states which are traditional Israeli adversaries, what about Iraq and Iran? Can Israel “trust” that Iraq/Iran will not use those weapons against other regional actors?
- Finally, Israeli strategy in recent years has been to “balance” against multiple adversaries through a variety of means, including nuclear weapons. As its traditional adversaries develop WMD, the region moves toward a de facto posture of Mutually Assured Destruction (MAD). However, what if the strategic balance of MAD, for cultural reasons, fails? Deterrence assumes that nation-state survival is paramount and leaders will act rationally to ensure its

survival, but some believe that there may be higher goals than state survival at work in the region, e.g., religious goals.

To conclude, Dr. Hajjar examined some of the US' options and made five recommendations for how the US should address proliferation in the Middle East.

- First, the US must adopt an integrated strategy, by combining both its nonproliferation foreign policy tools—such as security regimes, supply-side initiatives, and demand-side initiatives—with counterproliferation initiatives. The combination can slow acquisition and make it more expensive and difficult to develop effective WMD.
- Second, he recommended that the US assess its current anti-proliferation efforts and look more closely at actors' motivations and intentions for use, rather than just at their acquisition motives.
- Third, the US has a severe credibility problem in the region and is perceived as treating Israel differently than the rest of the Arab states. Dr. Hajjar recommended that the US abandon statements that commit the US to "guaranteeing Israel's military superiority" in the region. While it makes sense for the US to be committed to maintaining Israel as an independent nation-state, this goal could be met through parity rather than military superiority.
- Fourth, Dr. Hajjar called on the US to cease using terms like "rogue" and "outlaw state," which only feed extremists, isolate states, and create more incentives to proliferate.
- Finally, he recommended creation of a US Central Command Middle East Center to focus on instruction and research in the areas of security, defense, and proliferation issues, similar to the Marshall Center in Europe or the Asia-Pacific Center in Hawaii.

Dr. Hajjar believes that these are all do-able steps, which would lead the US in the right direction in trying to stem proliferation in the Middle East region.

DISCUSSION:

There was time for a brief question and answer session following the presentations. One participant disagreed with Dr. Hajjar's assertion that the US has a double-standard in the Middle East. According to the participant, US policy is justifiably less condemnatory of Israel because Israel has acted responsibly with its weapons of mass destruction. In his view, Israeli weapons cannot be perceived as offensive, since it is Israel that has been invaded a number of times—but it has never invaded another country. Few believe Israel will try to expand. Moreover, another participant added, Arab religious fundamentalists may have a different rationality, or goal structure, so Israel may be right to seek military superiority on a variety of levels, from deterrence to defense.

Dr. Hajjar disagreed. It is irrational, in Dr. Hajjar's view, for the US to ignore Israel's actions but ask Arab states to forego developing WMD. He added that the US needs to understand that one reason for building up weapons is out of fear or uncertainty. Why should the Arab countries "trust" Israel to use its weapons responsibly? Even the US, as powerful as we are, has nuclear weapons rather than trusting others. Dr. Hajjar demonstrated his point with a news headline from a recent British journal citing a new "anti-Arab" genetic weapon. Whether it may or may not be true, there is significant fear of Israel in the Middle East.

Another participant agreed with Dr. Hajjar's viewpoint, but asked him how he would get the US government to agree, in light of the strong pro-Israel lobby in the US. Dr. Hajjar felt the

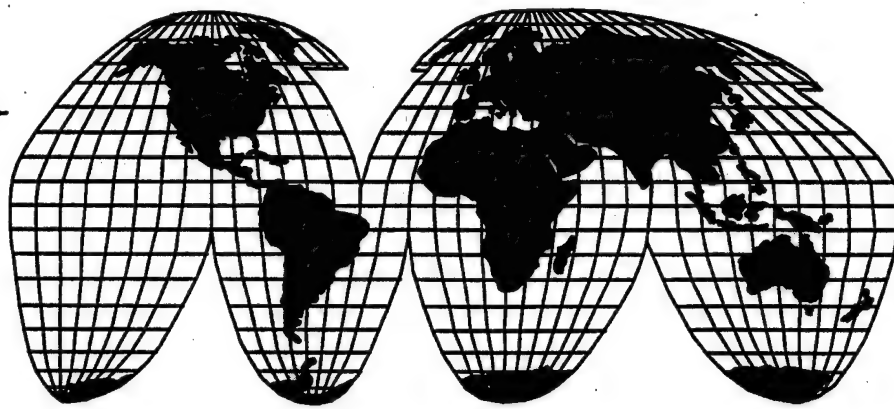
first step would be to abandon US' commitment to Israel's "military superiority," and instead, commit to "continued existence of the state." He believes this could be palatable to the US coalition but more acceptable than current policy to the Arab states. Dr. Ahrari echoed Dr. Hajjar's point: If the US wants to maintain credibility, it cannot promote one country over another. In Asia, there is a perception that the US definitely maintains a double-standard; does not understand India's true security concerns; and is not genuine about the NPT. As long as these contradictions exist, proliferation will continue.

Another question addressed efforts that Israel might make to negotiate directly with its neighbors to reduce arms. Does Dr. Hajjar see recent moves towards peace as opening the way for more normal relations where this might happen? Dr. Hajjar replied that the peace, hopefully, will lay the foundation for further agreements. Although he is Arab by descent, he advocated that Israel maintain its WMD until a deeper security regime can be built. The recent agreement is a small step in the right direction, but they are not there yet, since there are still many extremists, both in Israel and in the Arab world.

Following up that thought, another participant added that true arms control often results from positive change, rather than being the impetus for such change. In light of this, maybe the US should simply recognize that the NPT and CTBT would only be successful when these agreements are no longer necessary, when they codify a "fact" rather than a hope. In the meantime, the participant asked, do these agreements merely serve to de-legitimize the US? Lt Col Horton agreed that true security was a first step to arms control, but wondered how the US can foster an environment for political change. The US had some opportunities in South Africa, but failed to take advantage of them. For example, we could have thought through the trade-offs of our apartheid policy more clearly or emphasized regional stability to a greater extent.

To close the session, a participant questioned the authors on a broader issue, wondering whether or not the US has been measuring its progress too harshly...rather than measuring success according to proliferation, perhaps it should be measured by use. The authors agreed there might be merit to such a shift, but were skeptical of its feasibility since nonproliferation is an institutionalized US goal.

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Panel 3.

Conflict in the Information Age

**Maj Gregory Rattray, Chair
Col Carla D. Bass
Lt Col Larry K. Grundhauser
Lt Col Richard W. Aldrich**

1998 Research Conference

PANEL 3: CONFLICT IN THE INFORMATION AGE

Chair: Maj Gregory Rattray, AF/XOIWD

Panelists: Col Carla D. Bass, 694th Intelligence Group Commander

Lt Col Richard W. Aldrich, University of Houston

Lt Col Larry K. Grundhauser, 13th Intelligence Squadron Commander

PANEL PRESENTATIONS:

"Building Castles on Sand: Ignoring the Rip Tide of Information Operations," Col Carla D. Bass

Col Bass addressed the topic of Information Operations (IO). She began by asserting that IO does not equate exclusively to computer warfare. Instead, Information Operations according to DoD Directive 3600.1 and AFDD1-1 include: "actions taken to affect adversary information and information systems while defending one's own information and information systems." She emphasized that the community has to accept the idea that IO is a separate and new field. If we do not recognize this fact, we will be susceptible to attack and the US will be slow to develop offensive strategies. To emphasize her point, she stated that the Information War wages daily. Americans are easily manipulated by the global media using images of civilian casualties, collateral damage, and starving people. The media itself is susceptible to savvy US adversaries who expertly stage news events in the IO subset of psychological operations.

Col Bass outlined several problems in our national security strategies regarding IO awareness:

- The US does not have sufficient communications capacity to transmit expeditiously what we currently collect, process, and analyze.
- C2 systems are not interoperable among DoD forces, and certainly not with allied forces.
- Intelligence is not a crystal ball, despite our technical prowess.
- Much confusion still exists on IO terminology and turf.
- Adversaries will fight us for Information Superiority.
- Several different agencies within DoD are working on IO related projects so efforts are fragmented. There is no agency in place to generate a single, integrated effort.

Currently, according to Col Bass, multiple organizations throughout DoD own IO related projects. She believes that one agency should be in charge of IO in order to generate a single, integrated effort. This would help eliminate duplication of effort; inefficient application of resources; and they would ensure that the US does not lose valuable time in preparing to defend against and conduct information operations.

Col Bass remarked that there are many suggestions on how to solve the lack of a unified command of IO that have surfaced. One of the most popular solutions is to establish an IO Numbered Air Force (NAF), subordinate to Air Combat Command (ACC). The problem, however, is that NAFs lack sufficient intensity and thrust. Moreover, a NAF does not have the four- star advocacy to consolidate effectively IO initiatives throughout the DoD. The DoD needs an organizational solution at a much higher level to unite the ongoing IO efforts and to tackle the IO challenge head on.

Another suggestion is to disperse the IO mission across geographic CINCs. However, this approach places IO in direct competition with other conventional weapon systems and training requirements. It also allows each CINC to pursue (or not) independent solutions to conducting IO, fosters duplication of effort, and complicates the process of sharing lessons learned.

Instead, she suggested the United States Atlantic Command (USACOM) should head the IO effort, because it is currently tasked with Joint Training, Force Integration and Deployment. She also recommended that the following agencies transfer to USACOM:

- Joint Warfighting Center
- Joint Communications Support Element
- Joint Command & Control Warfare Center
- Joint Battle Center
- Joint Warfighting Analysis Center

Col Bass concluded that by unifying into one command DoD could forge scarce resources and joint expertise into a concentrated and focused pursuit of Information Assurance as a first step in conducting effective Information Operations.

"How Do You Know You Are at War in the Information Warfare Age?," Lt Col Richard Aldrich

Lt Col Richard Aldrich addressed the topic of Information Warfare (IW). He posed the question "how do we know we are at war?" Warfare in the technological age is completely different from how the military has traditionally operated. In previous wars, nuclear weapons were easily tracked by the military and our enemies were quickly identified. But in information warfare, the scenarios are not well-developed and are hard to track, and there are no clear enemies. Indeed, even teen hackers, under the instruction of the Analyzer, are trying to break into the government's computers on a daily basis. Lt Col Aldrich noted that another problem with identifying IW—the targets of these attacks are not well established, ranging from DoD agencies to civilian corporations.

In Lt Col Aldrich's view, DoD systems are especially vulnerable to these kinds of systematic attacks. The military has 2.1 million computers and 10 thousand local area networks (LANs). Some predict that in 1999 DoD systems will be attacked 1 million times. Lt Col Aldrich noted that the frequency and sophistication of hacker attacks on the information infrastructure and essential military and civilian Internet sites is increasing. This rise has attracted the attention of essential levels of both government and industry because this new form of warfare could potentially yield results comparable to weapons of mass destruction. In fact, the Joint Security Commission recently called the US' vulnerability to information warfare "the major security challenge of this decade and possibly the next century."

Lt Col Aldrich asserted that information attacks could be anywhere, conducted by anyone. This raises the question, "how do we deal with terrorists?" He suggested we look to the UN Charter for guidance on such terms as 'threat or use of force,' 'breach of peace,' and 'act of aggression.' Despite the fact that the Charter's terms are rooted in a time predating computers, satellites, local area networks, and the Internet, the Charter is designed to be a living document with terms broad enough to encompass the new information attacks.

Lt Col Aldrich asserted that the United States and other technological countries need to take the lead in determining with what force to strike hackers and other computer terrorists. The United States also needs to evaluate its own laws, which currently hamper efforts to pursue and identify attackers.

"Sentinels Rising: Commercial High-Resolution Satellite Imagery and Its Implications for US National Security," Lt Col Larry K. Grundhauser

Lt Col Grundhauser delivered the final panel presentation on commercial high-resolution satellite imagery. The use of commercial high-resolution satellite imagery began with PDD-23 and the Remote Sensing Act of 1992. It was enacted to liberalize licensing of commercial remote sensing systems, thereby giving substantial statutory relief so US firms could compete against their foreign rivals. He projected that by mid-year 2001, over 30 commercial imaging satellites will be in orbit, sporting state-of-the-art sensors; he expects that over two-thirds of those satellites will be foreign-owned.

Lt Col Grundhauser explained that the potential size of the market for commercial high-resolution satellite imagery is unclear. The Commerce Department estimated \$400 million and the White House calculated \$15 billion. This is an important issue because it directly relates to the object and purpose of US policy. If American firms dominate the global market, then the Federal government can retain some measure of control and possibly relieve the most serious threats to national security. However, if the market does not grow over the next few years, American firms may find it economically unattractive to compete, which would undermine current US policy.

Lt Col Grundhauser cited a late 1980s study by the Carnegie Endowment for International Peace that evaluated the military utility of commercial satellite imagery using Landsat, SPOT, and SPIN-2 imagery. The study concluded that commercial satellite imagery is "rich in information which can be used to affect the planning and execution of military operations." The US Air Force Space Command commissioned a similar study in 1997. The Air Force study agreed with the earlier findings, and concluded "a valuable intelligence picture can be pieced together using a combination of open source information and satellite imagery." Lt Col Grundhauser projected that, in the future, the commercial industry would use spectral imagery data for a variety of applications to include: precision agriculture, forestry, oceanography, mineral exploration, and environmental monitoring.

With the advances in computer technology, it is now possible to use the phenomenology from one sensor and combine it with others. The combination creates a high-resolution panchromatic imager, registered with a multispectral image (MSI), resulting in an image that contains a wealth of spatial and spectral information that outdistances what either sensor could separately provide. He explained that with the commercial use of the Global Positioning System (GPS), the government tried to restrict the accuracy of the GPS signal. The market forces retaliated by developing a differential GPS that provides geopositional accuracy rivaling GPS data reserved for the military. Another concern is that precision agriculture is combining the use of commercial satellite imagery with GPS to harness the power of satellite information and to convert that into greater crop yields. Over time, he said, this may make it easier for potential adversaries to use what they know about applying pesticides precisely and build a limited precision strike capability.

Lt Col Grundhauser cited another problem in the use of civilian satellite imagery—the media. Congress requested the Office of Technology Assessment investigate. The investigations affirmed these concerns and added that the media's use of commercial satellite imagery could complicate US national security in regards to:

- Disclosure of information concerning US military operations;
- Disclosure of sensitive foreign government information resulting in retaliation;
- Premature or preemptive revelations during a crisis that complicate decision-making, and
- Misinterpretation of imagery data that could precipitate a crisis.

Lt Col Grundhauser suggested that information superiority would become the principal objective and diplomatic currency of citizens' groups, businesses, and religious organizations. High-tech sources of information, like satellite imagery, could be used to prosecute new forms of war and antiwar, resulting in a gradual power shift from the nation-state and the traditional practice of diplomacy, to non-governmental organizations (NGOs) and international governmental organizations (IGOs). As the strength and popularity of NGOs and IGOs continues to grow, independent actors who derive their strength from public opinion could challenge traditional nation-state diplomacy. One advantage that could work in the Government's favor, is that these interest groups could actually advance US interests by providing timely tip-off in support of US policy, since they will likely monitor things beyond the government's scope.

Another area that will be affected is arms control. Imagery satellites have been used in arms control monitoring since the 1960s. Without satellite verification, agreements, such as SALT I and II and the ABM Treaty, would probably not have been adopted. The National Technical Means (NTM) used for arms control monitoring, replaced on-site inspections as the main verification means, due to reluctance by the Soviet Union for more intrusive verification. However, the lack of balance between the NTMs capabilities made it difficult to conclude multilateral arms control treaties. The majority of states had no independent means of verifying compliance. Commercial satellite imagery may actually facilitate new agreements since it allows even relatively underdeveloped nations an inexpensive means of assuring compliance.

Lt Col Grundhauser stated that commercial imagery would affect the process of compliance diplomacy. NGOs and IGOs, empowered with their own satellite imagery, could attempt to make the case for non-compliance independent of State Parties. Moreover, "white hat" countries like Sweden and Australia, may also take a more active role in the process of verifying existing and future arms control. Increasing the number of players with satellite imagery will undoubtedly elevate the "noise" level with respect to compliance assessments. This could be a problem since those assessments invariably require proving a negative—that a certain proscribed activity is *not* taking place. This is particularly troubling for the US because of our "effective verification" standard. Under the rule of effective verification, we must be able to detect any militarily significant breach of an agreement in time to respond effectively and deny the violator the benefit. That requires unambiguous evidence—not only of the violation but of its potential effects, as well. Commercial satellite imagery may be used by potential cheaters, NGOs/IGOs, or others in order to obfuscate the compliance assessment process and make it more difficult for the US to play its NTM trump card.

Lt Col Grundhauser believes that government funding will probably not increase in the years ahead, particularly in the sector of computers, digital data storage, and high-speed communications. Thus, private sector investments will likely drive innovation more so than military and/or other government requirements. This means that the tables may have turned; technology developed for the private sector may now serve as the touchstone for government systems. This could hold significant benefit for the US intelligence community as the market seeks solutions to complex problems in order to improve its market share. The multitude of activities needed to capture, process, analyze, produce, and disseminate imagery is known as the system's back-end. Historically, the government has paid less attention to the back-end in comparison to the more appealing collection systems themselves. Unlike government however, working end-to-end solutions is the forté of private enterprise where market opportunities and cost-cutting efforts drive innovation.

Lt Col Grundhauser then discussed the National Imagery and Mapping Agency's (NIMA) strategic plan which provided a roadmap for NIMA's decision-making process. According to the plan, NIMA will "increase its reliance on commercial imaging satellites and other technologies" as an integral

means of achieving its objective to "increase and expand information production." NIMA is corporately committed to increasing its involvement in the commercial imagery sector for these four fundamental reasons:

1. Commercial satellite imagery is unclassified at the time of collection.
2. The spatial resolutions of the new generation satellites now make the data more appealing to the mission areas NIMA must support. The geopotential accuracies have also improved greatly and make commercial imagery data attractive.
3. The myriad of spectral sensors will add an entirely new dimension to remote sensing for national security purposes.
4. At a minimum, commercial systems can act as a backup to NTM in some cases.

Lt Col Grundhauser stated that the Administration reserved the right to restrict imagery collection/dissemination "during periods when national security or international obligations and/or foreign policies may be compromised...." This policy is known as "shutter control," and is perhaps the most controversial of US remote sensing policy. One reason it is so controversial, is because there is concern that it could be viewed as infringing on First Amendment rights. The media has already put the government on notice that it will seek a court challenge to the policy when it is first implemented, arguing that it fails to establish "a clear and present danger" to justify use of "prior restraint" on fully protected speech. Internationally, shutter control is also problematic. The US endeavored for years to establish unfettered and non-discriminatory access to remote sensing data under the principle of "open skies." This helped to legitimize satellites for a variety of purposes, not the least of which was NTM. The most far-reaching international agreement related to the use of space is the Outer Space Treaty. The UN developed a set of guiding principles that emphasized states must have non-discriminatory access to remote sensing data.

According to Lt Col Grundhauser the most perplexing aspect in regards to current US policy is that it seems to ignore that global competition already exists. US firms are not the only providers, although they *are* the only companies subject to shutter control under US law. As a practical matter, if US national security is threatened and shutter control is used to stop the flow of commercial imagery, foreign firms could continue to image and disseminate their data with impunity.

The issue of space control and satellite legitimacy and immunity are closely linked and of critical importance to the US because of how dependent the populace is on satellites. The National Defense Panel (NDP) highlighted the importance of protecting American space assets. General Estes, commander in chief of US Space Command echoed the NDP's cautionary theme when he testified before Congress, saying America must actively pursue measures to "guard against turning dependence into a vulnerability." However, how to accomplish that laudable goal is still at issue. One idea is to develop anti-satellite weapons (ASAT); another suggestion is to develop the capability to deny or disrupt the information flow from satellites but not destroy the vehicles. Protecting satellites and ensuring their immunity from attack has been an issue since Sputnik I. Remarkably, the US and USSR implicitly cooperated to facilitate satellite reconnaissance of each other during the Cold War. Over time, they established a "Practice of the Parties" as the legal basis for legitimizing their use of satellites for reconnaissance.

Lt Col Grundhauser stated that the international community has never clearly established the status of satellites, partly because of their dual use and the challenges involved in verifying any agreement based on satellite functionality. The UN did agree that states could not do anything that could be construed as "harmful interference" with the peaceful use of space. This was taken a step further in the 1972 ABM Treaty when the Soviet Union and US explicitly agreed not to interfere with each other's NTM. This could become an issue if less-developed nations view commercial satellites as their "poor

man's NTM" and insist on treaty protections of commercial imaging satellites, similar to Article XII protections in the ABM Treaty.

According to Grundhauser, the White House killed the Army's Kinetic Energy Anti-Satellite (ASAT) program last fall. According to Bob Bell of the National Security Council (NSC), the Administration would like to find ways of destroying or disrupting the information downlinked by the satellites rather than by attacking the satellites themselves.

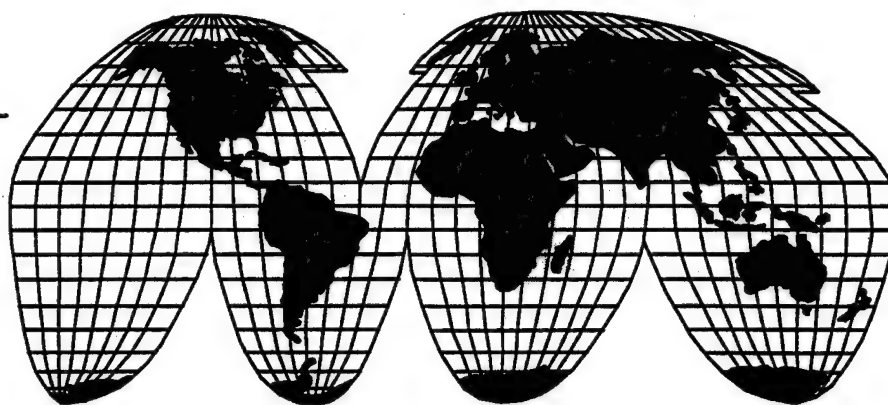
Lt Col Grundhauser explained one of the principal reasons for the NSC's opposition to ASAT programs is the link between ASAT weapons and the ABM Treaty. Early in the Clinton Administration, the US reaffirmed the traditional interpretation of the ABM Treaty, which prohibits the development, testing, and deployment of sea-based, space-based, and mobile land-based ABM systems. Many ASAT proposals against low Earth-orbiting satellites would also be useful against ICBMs during the lengthy mid-course phase of their trajectories. Thus, an ASAT program could serve a covert purpose of developing illegal ABM technologies that the ABM Treaty severely limits. The crossover between ABM and ASAT does not end with the ABM Treaty. It extends to the general relationship between the US and former Soviet Union. Specifically, Russia has linked the inviolability of the ABM Treaty with its commitment to full implementation and compliance with START I, early ratification of START II, and START III negotiations. Thus, although efforts to counter the threats posed by foreign commercial imagery satellites using ASAT weapons may be legitimate, they may do irreparable damage to the delicate US-Russia strategic relationship.

He concluded the briefing by saying the existence of commercial high-resolution imagery satellites is simply a fact that US policy-makers will have to accept. Although the information they provide will undoubtedly offer many challenges in the years ahead, these high-tech gadgets merely represent the latest iteration in man's struggle to achieve relative advantage over one another. The debate that has been raging over this issue may actually have more to do with the force structure choices that America makes in the next few years and how we perceive the nature of future conflicts, than with the capabilities of imaging satellites. To reduce our vulnerability to observation, America should shed the legacy construct of using large land forces. Instead, we should opt for advanced technologies that apply force precisely to the vital areas of an enemy using remote platforms.

The technologies involved with commercial imaging satellites are neither revolutionary nor inconsequential. That is what makes the issue so difficult. Nevertheless, in the near-term at least there should be no significant shift in the status quo, although long-term prospects are less clear.

DISCUSSION:

Due to time constraints, the session included only an informal question and answer opportunity.



Panel 4.
Environmental Security

Mr. Robert E. Jarrett, Chair
Dr. Katherine S. Carson
Capt William Casebeer
Dr. Charles Krupnick
Lt Col Harold Bidlack

1998 Research Conference

PANEL 4: ENVIRONMENTAL SECURITY

Chair: Mr. Robert E. Jarrett, Army Environmental Policy Institute (AEPI)
Panelists: Dr. Katherine S. Carson, USAF Academy (USAFA), Department of
Economics and Geography
Capt William Casebeer, University of California
Dr. Charles Krupnick, USAFA, 34th Education Group (34th EDG)
Lt Col Harold Bidlack, USAFA, Department of Political Science

PANEL PRESENTATIONS:

“Discrete Choice Modeling of Environmental Security,” Dr. Katherine S. Carson

Dr. Katherine Carson explained that the purpose of her research paper is to forecast the probability of conflict in a nation as a function of its environmental conditions. Why might environmental conditions, or degradation, generate conflict? Dr. Carson suggested that the presence of overpopulation or unsustainable population growth may place pressure on the food and water supplies of countries in sensitive areas of the world. In turn, severe air or water pollution may place additional pressure on these resources. Dr. Carson offered that these pressures may generate both internal and international conflict in these areas as nations struggle to provide for their citizens. These conflicts could require US intervention, either unilaterally, or through the United Nations.

Dr. Carson’s approach to identify the probability of conflict in a nation involved use of econometric models (statistical modeling), specifically the probit, logit, and ordered probit models. She remarked that statistical analysis conducted on environmental degradation and conflict has been performed in the past. A survey of current literature revealed an indirect link between the two variables. Dr. Carson cited a study by Homer-Dixon in 1994 that established links between environmental scarcity and conflict. However, Dr. Carson noted that most of these statistical analyses were based on correlation analysis such as Pearson’s Chi-Squared.

Dr. Carson decided to pursue her research via econometric models because they are useful in conducting counterfactual experiments and in conducting forecasting studies. She described the general forms of several econometric models as:

Limited-Dependent Variable Models

- $Y^* = X\beta + E$
- Y^* = a latent, or unobserved, variable that represents the level of threat or potential for conflict that a nation poses
- Y = observed indicator variable for level of threat, where Y can be discrete or binary

Probit*

- $Y=0$ if Y^* is less than or equal to 0
- $Y=1$ otherwise

Ordered Probit*

- $Y=0$ if Y^* is less than or equal to 0
- $Y=1$ if $0 < Y^*$ is less than or equal to μ_1
- $Y=2$ if $\mu_1 < Y^*$ is less than or equal to μ_2 , etc

*Both models assume a normal distribution.

Dr. Carson then described the characteristics of the dependent variable (Y) in her study. The source she used for her data was Political Risk Services, which provided 18-month and 5-year risk of turmoil in a country. Dr. Carson classified the data according to the following framework:

- For a low risk of turmoil, a value of $Y=0$ was assigned to the model (corresponding to a stable social system).
- For moderate risk, $Y=1$ (political tension situation).
- For high risk, $Y=2$ (lower intensity conflict).
- For very high risk, $Y=3$ (high intensity conflict).

For sources of conflict, Dr. Carson used values from the Homer-Dixon 1994 study. These values include:

- Greenhouse-induced climate change.
- Stratospheric ozone depletion.
- Degradation and loss of good agricultural land.
- Degradation and removal of forests.
- Depletion and pollution of fresh water supplies.
- Depletion of fisheries.

The independent variables used by Dr. Carson include:

- Population growth rates (1990-95, and 2000-05).
- Population density.
- Population per hectare of arable land.
- Total food aid deliveries, 1997.
- Annual river flows from other countries.
- Percent of GDP from agriculture.
- Annual percentage change in forest and other wooded land.
- Net commercial energy imports as a percentage of GDP.
- Annual withdrawals of water as a percent of renewable sources.

Dr. Carson then presented the results of her econometric models. In total, data from 95 countries was used to estimate the models. Additional forecasts were generated for an out-of-sample data set of 22 nations. The results indicated that the dependence of a nation's economy on agriculture, the rate of deforestation, and population density are important variables in forecasting the probability and level of conflict. Dr. Carson further added that it is unclear that the United States has a direct role in mitigating the environmental conditions that generate conflict. In her opinion, a more important role for the military is to aid in data gathering to generate better forecasts so that troops are adequately prepared when conflict arises.

"Environmental Security: The Middle East Region," Capt William Casebeer

Capt William Casebeer stated that the purpose of his research paper is to assess environmental security concerns in Southwest Asia (SWA). Specifically, his paper focuses on a factor that is critically important to stability in SWA, but that is typically omitted from "pure" politico-military analyses of the region: the availability of potable water.

According to Capt Casebeer, the governments and peoples of SWA are extremely sensitive to the demand for fresh water. As a result, he explained that any environmental issues surrounding the availability of water for agricultural, industrial, and domestic use will likely impact security concerns in the region. Capt Casebeer argued that water-related concerns are by far the most prominent regarding regional security and stability. The foundation of his argument rests on three case studies: 1) the Nile River Valley (including Egypt, Sudan, and Ethiopia); 2) Turkey's Grand Anatolia Project, or GAP (also encompassing Syria and Iraq); and 3) Israeli/Arab/Palestinian issues.

Capt Casebeer summarized the Nile River Valley study. His synopsis focused on the construction of the Aswan Dam in Egypt. The objective of the dam, according to Capt Casebeer, was to free Egypt from the whims of upstream riparians. The early planning period for the project (1952) was marked by US, Britain, and West German willingness to finance the dam. However, these countries demanded total Western commitment. However, Egypt did not agree with these demands and nationalized the Suez Canal. As a result, President Eisenhower interceded to prevent British, French, and Israeli intervention. The upshot, according to Casebeer, was that Egypt decided to seek the Soviet Union's help in 1958 to fund the project. So important was the project to Egyptians that it became a matter of national prestige and image. The Sudanese, however, objected to the final plan. Other concerns arose as well, including: no provision for upstream riparians, and the submergence of Wadi Halfa (tens of thousands to be moved). Capt Casebeer added that the lack of coordination to address these concerns exacerbated water-related tensions. Tensions rose to such a level that many proclaimed that the next war in the region would be over the waters of the Nile, not politics.

Capt Casebeer then summarized the second case—Turkey and the GAP. This \$20 billion project, according to Capt Casebeer, was crucial to Iraq, Syria, and Turkey. The first phase would be to develop the Euphrates River, and then to breathe new life into SE Turkey. All affected nations would be involved with the construction. Capt Casebeer proceeded to explain additional details of the project, including the construction of 66 power stations, 68 irrigation projects, and 80 dams. In addition, he explained that the project is already a source of tensions. For example, Syria experienced crop losses and reduced electricity production in 1990. Iraq suffered crop losses as well. So what does this all mean? Capt Casebeer offered a RAND synopsis of the situation—a high potential for conflict in that region.

The third study—Israel, the Arabs, and the PLO—sheds light on ancient water-related tensions. Capt Casebeer explained that Israel draws the majority of its water from sources in land occupied since the 1967 war. In fact, he pointed out that the Israeli victory in the 1967 war expanded that nation's water supply by over 50 percent. But the history of water goes further back. In the Spring of 1951, shootings occurred in the demilitarized zone (DMZ) with Syria because they were draining swamps to divert Jordan river water to Negev. September 1953 was marked by additional shootings in the DMZ. Then, in November 1964, Arab and Israeli patrols exchanged fire over Dan River sovereignty. Additional incidents include:

- In July 1966, the Israeli Air Force (IAF) bombed Syrian construction vehicles, and engaged the Syrian Air Force (SAF) at Banias.
- In August 1966, Israel and Syria exchanged fire (Lake Tiberias).
- In April 1967, a firefight occurred in the DMZ. This was caused by Arab attempts at water diversion.

Clearly, water has and will continue to be an issue in this region, explained Capt Casebeer. He offered a quote from environmental security expert Thomas Naff, who said, "In sum, the strategic reality of water is that under circumstances of scarcity, it becomes a highly symbolic, contagious, aggregated, intense, salient, complicated, zero-sum, power- and prestige-packed issue, highly prone to conflict and extremely difficult to resolve."

In closing, Capt Casebeer emphasized that water is a national security issue and should be treated as such, both analytically and in policy formulation/implementation. He further suggested raising awareness of implicit water concerns/issues throughout the world and helping analysts adopt methodologies that explicitly factor in environmental issues.

"Russian Submarines, Nuclear Waste, and a Model for International Cooperation," Dr. Charles Krupnik

Dr. Charles Krupnik's presentation focused on the problems associated with decommissioning Russian nuclear submarines. Specifically, he explained that after the Soviet Union disintegrated, Russia found that it had no provisions for decommissioning these submarines. Of particular concern in the dismantling process is the problem of spent fuel assemblies. How do you store them? What do you do with them?

Dr. Krupnik provided a brief background on spent fuel assemblies. He explained that most Russian submarines have two nuclear reactors, and each contains about 250 fuel assemblies. Each fuel assembly is about 2.5 feet long and 2-3 inches square in cross-sectional area. In total, approximately 50,000 fuel assemblies remain on submarines; 30,000 are stored in Northwest Russia.

According to Dr. Krupnik, the problem with storing spent fuel assemblies is complex. First, spent fuel assemblies potentially pose a localized radiation hazard. Further, this radiation hazard could extend to an environmental contamination potential to the entire Arctic region. Second, spent fuel assemblies pose a possible proliferation threat of weapons usable nuclear material.

So why are the Russians having problems with the storage of spent fuel assemblies? According to Dr. Krupnik, there are several reasons for Russia's troubles, including: 1) technical problems; 2) confused lines of authority; 3) relatively low priority of the Russian government; and 4) lack of funding. Perhaps the most significant of these troubles is the lack of funding, in Dr. Krupnik's view.

Dr. Krupnik then outlined the defueling process used by the Russians. After spent fuel cells are removed from submarines, defueling ships transport the materials to an interim storage site located in Northwest Russia at the Mayak reprocessing facility. Once the material is ready

for processing, the Mayak facility takes over and reprocesses the material relatively reliably. A permanent geological storage transport site is then found for the reprocessed material.

However, Dr Krupnik explained that the international community is nervous about the Russian process, primarily because of the significant backlog in the system. Thus, the international community has several motives for an effort aimed at international cooperation. These motives include: 1) fear of a nuclear accident; 2) potential business for Western nuclear companies; 3) possibility of developing new technology; 4) global environmental concern; and, 5) to help a country in need.

Unfortunately, international cooperation is hampered by several problems:

- Other nuclear priorities and not much money.
- Doing business with Russia is difficult.
 1. Corruption.
 2. Taxation.
 3. Liability.
- Political and security concerns.
 1. Helping the Russian Navy is controversial.
 2. Giving up proprietary industrial information.

Nevertheless, recent progress has been made on the international front. For example, the Russian-Norwegian Framework Agreement was signed in May 1998. Furthermore, the Russian defueling process is slated to be streamlined, and US Cooperative Threat Reduction (CTR) funds are now being used for Russian SSBN displacement, including providing pay to shipyard workers. Also, the radioactive liquid waste purification projects that have been initiated at Murmansk and Bolshoi Kamen are almost on line.

The final portion of Dr. Krupnik's presentation focused on the theory underlying environmental cooperation. According to Prof. Oran Young of Dartmouth College, cooperation on environmental and resource issues is usually a combination of three factors: interest, power, and knowledge. Dr. Barbara Gray of Penn State University and the Darden School at the University of Virginia identified three phases of a process model to help understand environmental collaboration. These phases are: 1) problem setting; 2) direction setting; and 3) implementation.

According to Dr. Krupnik, the first phase (problem-setting) is primarily focused on defining the problem, identifying stakeholders, and committing to collaborate. The second phase (direction-setting) is focused on setting the agenda, searching for joint information, exploring options, and reaching an agreement. The third phase (implementation), explained Dr. Krupnik, revolves around the basic principles of getting the job done; dealing with constituencies; and monitoring the agreement to ensure compliance.

Dr. Krupnik then expounded on these three phases using real-world data related to the Russian spent fuel problem. For example, he explained that the first phase of the process model (problem-setting) was tackled by non-government organizations (NGOs). According to Dr. Krupnik, NGOs identified the spent fuel problem to the world. These organizations included Greepeace, the Bellona Foundation, the Arctic Council, and others. Next, Dr. Krupnik said that the second phase (direction-setting) is crucial because this is where what "can" be done is

separated from what "should" be done. In addition, Dr. Krupnik offered that direction-setting was the domain of national governments and inter-government organizations (IGOs), not NGOs, to include:

- Norway, Sweden, Finland, European Commission, and the United States.
- Barents Council and NEFCO.
- IAEA Contact Group (CEG).
- Rule-making regimes such as the IAEA, Vienna Convention on liability, London Convention 1992 on ocean dumping.

As regards the third phase (implementation), Dr. Krupnik suggested that national governments and multinational corporations should lead the effort. In particular, Dr. Krupnik noted that nuclear expertise is held by governments and companies with long-standing ties with governments. He also noted that companies often act in alliance to share risk and contacts, both in the West and with Russia.

Dr. Krupnik ended his presentation by outlining several key points to successful collaboration on Russian submarine spent fuel. These points included: 1) Norway as the "Convener," a stakeholder crucial to sustaining interest, creating cooperative mechanisms, and a major funding source; 2) IAEA Contact Group as a "Pivot Regime," connected to national governments, other IGOs, and multinational corporations; and 3) corporate profit motive provides a "push" for Western governments to fund Russian projects.

"Interagency Cooperation on Environmental Security: The White House and Beyond," Lt Col Harold Bidlack

Lt Col Bidlack explained the purpose of his paper is to determine: 1) how the federal government can increase cooperation with those agencies dealing with environmental security issues, and 2) what the role of various agencies and organizations should be. To answer these questions, Lt Col Bidlack examined the interagency process on environmental security and explored those factors that enhance (or detract from) teamwork and cooperation. Lt Col Bidlack looked at several key factors of organizational behavior, namely: how organizations promote cooperation, and how power is a factor in cooperation.

Lt Col Bidlack stated that his study drew from three sources of data: 1) scholarly literature; 2) interviews with government officials dealing with environmental security issues; and 3) his own personal experience as a member of the National Security Council (NSC) staff at the White House for two summers.

His research focused on four models for organizations and decision-making. These models were: 1) rational actor; 2) bureaucratic; 3) decision process/organized anarchy; and 4) political power. Within this framework, Lt Col Bidlack examined the federal government's response to international forest fires. Specifically, he looked at the major forest fires from 1997 and 1998. These fires burned at a variety of locations around the world. According to Lt Col Bidlack, these fires were significant global events due to a variety of factors, and the response of the international community was equally varied. Through his "inside look" into the NSC, Lt Col Bidlack was able to focus significant attention to these fires and the associated US response to them.

Lt Col Bidlack learned that the interagency process used to develop US policies illuminated a variety of strengths and weaknesses. He further explained that although many dedicated professionals from a number of federal agencies were fully committed to minimize the damage caused by these fires, cooperation did not always succeed. Lt Col Bidlack's paper attempts to explain why this happens. In an attempt to summarize his findings, Lt Col Bidlack offered two quick reasons: 1) it is often difficult to differentiate between the "Tasker" from the "Taskee," and 2) agency views and norms don't always correlate nicely, particularly when the typical responses are "it's our job" or "it's not our job."

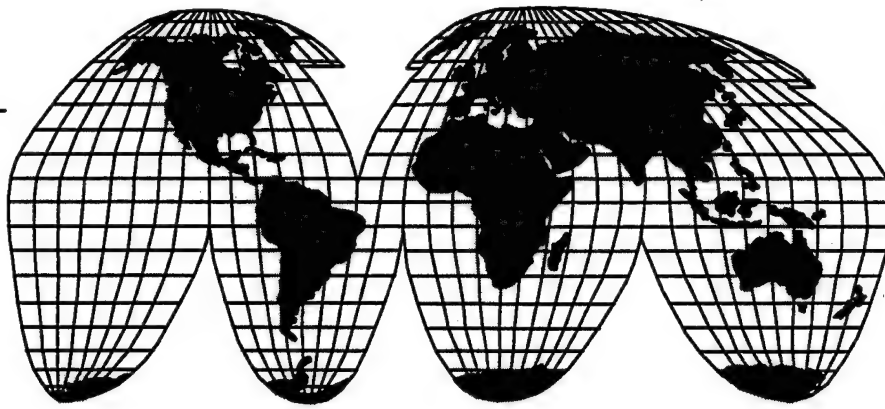
In conclusion, Lt Col Bidlack emphasized that inter-agency working groups (IWGs) might be the solution to this coordination problem. However, he went further and offered several specific conclusions:

- Environmental security is best run by the NSC.
- In crisis situations, an NSC IWG should manage the problem.
- The NSC can command and task.
- The NSC can be an "Honest Broker."

PANEL DISCUSSION:

Following the last presentation, the audience was invited to question the authors on their material. A participant asked Lt Col Bidlack if a Presidential Decision Directive (PDD) on environmental security was needed. Lt Col Bidlack responded that a PDD was, in fact needed. He suggested that the US needs someone to carry the torch. In his opinion, the bottom line is that the President of the United States needs to indicate that this issue matters.

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Panel 5.

Regional Security--Post Cold War Transitions and Stability

**Dr. James Smith, Chair
C1C Thanh N. Dinh
LTC Jeffrey Addicott
Maj Matthew A. Long**

1998 Research Conference

Panel 5: REGIONAL SECURITY—TRANSITIONS

Chair: Dr. James Smith, Director, INSS
Panelists: C1C Thanh N. Dinh, CS-38, USAFA
LTC Jeffrey Addicott, USSOUTHCOM
Maj Mathew A. Long, Department of Political Science, USAFA

Dr. Smith welcomed participants and explained that this year the regional security panels were arranged thematically, rather than by region. The focus of Panel five was on regional and national transitions. C1C Dinh's and LTC Addicott's papers examined ways the US can aid the transition of Viet-nam and Cuba respectively to more democratic regimes. Maj Long's paper looked at the most likely institutional avenues to encourage maintenance of security, stability, and economic prosperity in Southeast Asia.

PANEL PRESENTATIONS

"Democratization of the Socialist Republic of Viet-Nam," C1C Thanh N. Dinh

C1C Thanh Dinh initiated his presentation by thanking INSS for its support. In conducting his research, C1C Dinh interviewed parties with far-ranging and diverse attitudes regarding how the US should deal with Viet-nam, including families and organizations representing POWs/MIAs, non-governmental organizations (NGOs), US trade agencies hoping to promote economic ties, the Defense Intelligence Agency, the State Departments and others.

C1C Dinh explained that while his paper explores larger issues of democratization theory—specifically the interaction between economic capitalism and political liberalization—he focused his presentation on whether the US should adopt a policy of isolation or engagement towards Viet-nam.

According to C1C Dinh, two main camps reflect these different policy approaches. On one side are those who advocate continuing openness and encouraging trade. While some of the members of this camp take this position for economic and business reasons, others argue that engaging Viet-nam leaders and promoting trade advances democracy. On the other side are those who vehemently oppose such interaction, believing it legitimizes an illegitimate government financially "props up" a corrupt and repressive regime, and rewards Vietnamese leaders for their authoritarian behavior, without holding them accountable for their past. Members of this camp include some of the ex-patriot community, political conservatives, human rights advocates, and families of POW/MIAs. Indeed, the more militant among this camp believe the US should support groups to overthrow the Vietnamese government. C1C Dinh empathizes with this view, but believes it is counterproductive and possibly dangerous. Instead, the US should engage Viet-nam, *conditionally*, in order to foster democratization.

To support this conclusion, C1C Dinh offered a brief historical overview of Viet-nam's development. In the aftermath of reunification, Viet-nam had an extremely repressive and autocratic government – it was also one of the poorest countries on the continent, second only to Bangladesh. Under its Communist leaders, the state emphasized agrarianism over industrialization and conducted a "re-education" campaign that destroyed intellectuals, new ideas and any business entrepreneurship. In 1986, however, leaders noted the economic growth in countries surrounding Viet-nam (and likely felt relatively confident that their power was

sufficiently entrenched) and initiated "change." Since 1994, relations between Viet-nam and the US have been "normalized," allowing for increased openness, tourism, and trade.

In addition to economic growth, increased interaction with the West has brought with it an influx of ideas into a society that had been isolated and opposed to new thinking. C1C Dinh argued that it is this influx of ideas that has helped and will continue to help form the foundation of a civil society that allows the political liberties required for democratization. Moreover, the increased flow of funds is starting to create a middle class, often a prerequisite to greater demands for political freedoms.

Although there has been economic growth, new tensions are emerging in Viet-nam—tensions that could create either a backlash or an opening, according to C1C Dinh. Namely:

- The tension between Hanoi, which is the political capital of Viet-nam, and Saigon, which is the economic capital, concerned with growth, open to international input and ruled by a younger, business class.
- Rural-urban tensions. As Viet-nam moves from an agrarian to a more industrial society, people are being displaced and rural areas are suffering, while cities are becoming crowded.
- The gap between old and young. While the country is ruled by a gerontocracy, the population is very young; 60 percent of the country is under 25 years old.
- The wealth gap.

With increased economic contact with the West, C1C Dinh explained, the 19-member Politburo that runs Viet-nam has allowed more individual liberties. For example, uniforms are no longer required, tourists are admitted into the country, and the populace can travel more freely. Indeed, US engagement with Viet-nam has done more to advance freedom in Viet-nam over the last five years than the US policy of isolation accomplished in 20 years. Despite changes, the government has still not loosened regulations related to political freedoms. There is no opposition party; it is illegal to form groups unless sanctioned by the government; there is no freedom of press; and, it is illegal to criticize the government. C1C Dinh feels that with the flow of more and more new ideas into the country, the population will demand more political freedom, as foreshadowed by recent events in Malaysia and Indonesia.

C1C Dinh argued that the US has a duty to continue to engage Viet-nam, for three reasons. First, the *National Security Strategy* specifically states that the US will use a strategy of engagement and enlargement and will seek to promote democracy. Second, it is in the US interest to promote regional stability and democratization. And third, and most important in C1C Dinh's view, encouraging democracies is the legacy—and the responsibility—that is uniquely American. The US is a powerful influence, and it should exert its influence to promote freedom, whether it appears to be in our immediate security interest or not.

C1C Dinh predicted that the path ahead would not be easy. The older ruling class is firmly entrenched and unlikely to give up any power soon. C1C Dinh thinks that if the repressive regime continues on its current path, we can expect to see some of the instability being experienced in Indonesia and Malaysia in Viet-nam. Thus, C1C Dinh advocated that the US engage Viet-nam diplomatically, culturally, economically, with information, and injections of capital; however, the intent of this engagement must be to encourage democracy and allow the Vietnamese people the opportunity to move towards change. In conclusion, C1C Dinh suggested that by engagement, the US may still be able to win the Viet-nam War—but with ideas, rather than bullets.

**"Promoting Human Rights in Cuba's Post-Castro Military," LTC Jeffrey Addicott,
USSOUTHCOM**

LTC Addicott initiated his presentation by displaying a map of the world. In the Western hemisphere, he noted, there is only one country that is rated as "poor," in terms of human rights—Cuba. Fidel Castro, LTC Addicott asserted, has proven to be a ruthless, repressive, and extremely resilient dictator. While most expected Castro to lose power in the wake of the collapse of the Soviet Union, he has managed to consolidate his position and continues to rule.

Similar to the two policy options C1C Dinh outlined vis-à-vis Viet-nam, LTC Addicott explained the two main policy positions on how to deal with Castro: Engage the country through greater openness and trade; or isolate his regime and apply sanctions. Obviously, LTC Addicott pointed out, the US has adopted the second option. Rather than assessing which is the preferred policy, LTC Addicott's paper provides more of a thought piece on how the US should deal with Cuba post-Castro, and what steps the US can take today to ensure it uses the window of opportunity that Castro's passing will offer. LTC Addicott believes that because the Cuban government is more "personal" than institutional, residing more in Castro's charisma than in his position as President, it is unlikely that there will be a smooth transition to another regime, especially because the most obvious successor is Fidel's brother, Raul, who is extremely unpopular. Thus, there could be a strategic pause once Castro leaves power, and the US should be positioned to take advantage of it.

Prior to recommending what the US should do to ready itself for this day, LTC Addicott addressed the "why" question—why does it matter to the US if Cuba is a democracy or not? LTC Addicott pointed out that there are some obvious moral benefits, but there are some practical ones as well. First, history tends to support the theory that liberal democracies rarely fight each other. Thus, a very practical benefit of promoting democracy is war avoidance. Second, he noted that the military in Cuba has been extremely strong; thus, enmeshing it in democratic rule in the immediate aftermath of Castro's leaving could go far in promoting stability in Cuba.

LTC Addicott's recommendations for seizing the window that will likely open with Castro's passing focus on Cuba's military. There are over 60,000 in the active duty military. In the past, it was involved in numerous "wars of liberation" across the globe. More recently Castro has used the military to consolidate his power through economic means. For example, the military is engaged in sugar production and owns commercial airlines, LTC Addicott explained. Thus, it will have a strong vested interest in maintaining the status quo, post-Castro. Nevertheless, LTC Addicott believes that there are steps the US can take to try to turn the military towards greater freedom and democracy.

LTC Addicott explained that the paper drew significantly upon recent efforts by the US Army's judge advocate general's office (JAG) to help instill respect for human rights in the Peruvian armed forces. When the *Sendero Luminoso* began a covert revolutionary action against the government, primarily through a war of terror against the populace, the Peruvian military initially responded in-kind, committing human rights abuses and "disappearing" people. The US moved to cut-off aid, placing the Peruvian government in an even worse position vis-a-vis the revolutionaries. The Peruvian government requested assistance from the US to help its military improve its respect for human rights. LTC Addicott became involved in designing a program to help teach the military the "Ten Commandments for Human Rights." The result was a dramatic improvement in the military's respect for human rights, and an increased level of support by the populace when they saw that only the revolutionaries were using terror tactics. It is this type of

program, LTC Addicott argued, that the US (and specifically the JAG) should be preparing today so that it can be implemented in the immediate aftermath of the post-Castro regime.

DISCUSSION

A brief question and answer session followed LTC Addicott's presentation. One participant asked LTC Addicott whether the legal system should also be targeted in the re-education package. The military must have faith that the legal system will work in order to prosecute rather than "disappear" a person. LTC Addicott agreed. While the military is the most prominent institution that needs to be enmeshed in the rule of law, other institutions, such as the legal system, must also be democratized for the system to work. In Peru, this was less a problem, although the JAG targeted some of their efforts on the legal system. He also pointed out that initially the Peruvian armed forces felt they were being unduly criticized since their tactics were comparable, if not less brutal, than the revolutionaries' tactics. It took a great deal of effort to convey that expectations of a state-sponsored entity differ from what people expect from an extra-legal group.

Another participant asked LTC Addicott to elaborate on his point that the US can and should be taking steps to initiate such programs now. LTC Addicott explained that the US can begin the process by first, preparing the program today, so it is on-the-shelf and ready to be implemented immediately when Castro leaves power. Second, the US can initiate contacts with the military in non-intrusive ways. For example, Cuba now sends Service representatives to many of the same conferences that US military reps attend. While it is dangerous for the Cuban military members to get too close to US representatives, the US can initiate some dialogue and make contacts that could prove valuable in the coming years.

"Emerging Security Arrangements in Southeast Asia," Major Matthew A. Long

Maj Matthew Long explained that his paper examined regional transitions rather than transitions in a single country. His paper compares the utility of two institutional mechanisms for maintaining Southeast Asian security, namely: the "San Francisco" system of US bilateral ties to regional states and the multilateral cooperative forum called the Southeast Asian Nations Regional Forum (ASEAN Regional Forum, or ARF). The thesis of his paper is that while ARF serves a positive function, the San Francisco agreement is, and will continue to be, the key institutional mechanism of security in Southeast Asia, since SE Asian security continues to hinge on decisions made in Tokyo, Beijing, and the US.

In coming to his conclusions, Maj Long considered three areas: SE Asia's security needs, potential regional conflict scenarios, and the security mechanisms designed to minimize such conflict scenarios. Maj Long identified four main security-related goals for the region: continued economic growth, interdependence, further progress in regional security integration, and managing relations with China, Japan, and the US. Maj Long identified some threats to these goals: the negative effects of today's economic crises, increased militarization of Japan, the perceived decreased interest on the part of the US towards SE Asia, and, of course, China's growing hegemony in the region.

Up until now, Asian economic growth has underpinned regional political stability. As long as nations were prospering, "soft" authoritarian governments could maintain power without significant internal conflict through an implicit bargain that political freedoms would be limited, in exchange for economic and per capita income growth. The latest economic downturn has

eroded this bargain. Will the population demand more freedoms, as is happening in Indonesia? And, will "soft" authoritarian regimes become increasingly repressive leading to even further domestic and regional instability?

Beyond the internal aspects of instability, Maj Long also noted six additional factors affected by the downturn in Asian growth:

1. ASEAN states are, out of necessity, slowing their defense spending, undercutting the modernization efforts of most Southeast Asian states.
2. The US and other states continue to spend significantly on defense.
3. The result of these two factors is that SE Asia is increasingly dependent on the US and other extra-regional powers.
4. ASEAN states are seeking more interdependence, through such fora as ARF.
5. The crisis may lead to more mature arms purchases—and may even lead to a shift in defense orientation from territorial defense to regime protection, with a potential to undermine further stability and progress.
6. Limited regional security cooperation with the US military. As defense spending decreases, it is harder for these countries to continue to exercise and collaborate with the US militarily.

After exploring the security interests of regional actors and the effects of the economic downturn in Southeast Asia, Maj Long addressed the security interests of great powers in the region, beginning with China. He noted four major interests: maintaining strong military influence in the region; increasing its influence through economic growth and military modernization; pursuing multilateral security arrangements, but primarily through institutional mechanisms that do not involve conflict resolution (such as AFR); and creating obstacles to initiatives it sees as threatening to its power, such as ballistic missile defense in the region.

Japan, on the other hand, is in a more precarious position vis-à-vis Southeast Asia. It may seek closer political and military ties, but political paralysis internally and its own economic issues prevent it from assuming a greater role in the region. Moreover, any military expansion into the region would likely draw a negative response. In contrast to China, Japan's ability to influence Southeast Asia through either economic or military means appears remote. On a positive note, however, Maj Long mentioned Japan's recent decision to re-capitalize its bank to increase its capacity to make loans and extend credits to SE Asian states.

Finally, the US has an opportunity to expand its influence in Southeast Asia, especially because these nations actively seek US involvement in the region. However, the US has been slow to recognize and act on this opportunity due to political opposition in the US to extending further credits and helping bail-out these economies, except through the International Monetary Fund, which has imposed restrictions that have proven counter-productive in the short-run. (Although Maj Long noted that the recent congressional approval of increasing IMF funding \$18 billion was positive). In addition, the US's strategic partnership with China could alienate Japan even further. Thus, the US risks a backlash if it does not use the influence it has—and SE Asia desires.

Maj Long then addressed potential conflicts in Southeast Asia. While some of these result from the economic crisis—illegal immigration, regime instability, latent ethnic disputes—others are long-standing historical disputes, based on territorial issues. Maj Long singled out the Spratly Islands dispute. In the past, China appeared to be reverting to its traditional "sphere of influence" approach to the region, but recent events make conflict over the Spratlys less likely to result in actual and open territorial hostilities. For example, China joined ARF; Indonesia has

hosted a series of "talk shops;" the countries have engaged in multilateral discussions on the Spratly question. Others include: the move by China towards bilateral joint development of the islands; China's realization that it could not sustain a prolonged military operation in the South China Sea; the US decision to provide escort services; and most importantly, China's prioritization of continued economic growth and other territorial issues (such as Hong Kong and Macau) over sovereignty issues related to the Spratlys.

Finally, Maj Long assessed the capacity of ARF versus that of the San Francisco system of US bilateral security alliances in Southeast Asia to determine which is most suited to the security environment described so far. ARF, Maj Long explained, aims to promote independence of the Southeast Asian region through interdependence. Its purposes include: to prevent tensions and military conflict; promote confidence-building security measures (CSBMs), increase transparency, build a security regime, de-legitimize military force as a means of resolving disputes, and provide a political mechanism to engage great powers. Maj Long views it as "toothless by design." ARF does not, purposefully, include direct conflict resolution measures; it is *not* a collective security organization. He believes it was designed this way for a variety of reasons, including: fear by member-states that they would lose some of their sovereignty, to encourage consensus, to provide a "breaking" mechanism, to allow a mechanism that is flexible enough to meet the rapid pace of political and economic change, and, importantly, because great powers (China, Japan, and the US) did not want ARF to have too much power. Thus, the nation-states most likely to be engaged in hostilities are not even included in ARF, such as Pakistan, Taiwan, and Korea.

Given ARF's "toothless" nature, Maj Long concluded, the San Francisco system remains the most viable mechanism to deal with Southeast Asia's security. While ARF is a valuable fora, it is not equipped, nor was it intended, to be a true mechanism of conflict resolution. The San Francisco system, on the other hand, serves three main functions:

1. It establishes a foundation for peace and stability through strategies of preventive defense and military deterrence.
2. It promotes potential for increased economic development and prosperity.
3. It advances economic, political, and military cooperation through regional integration.

Maj Long concluded his presentation by making the following recommendations regarding US policy towards Southeast Asia:

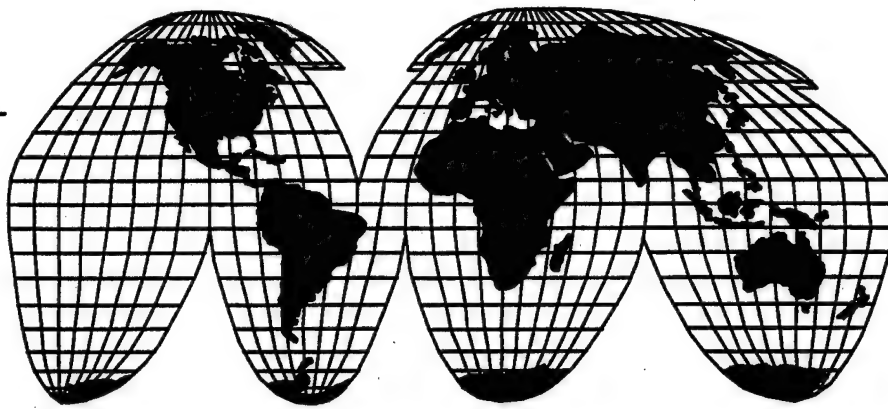
- US must provide leadership to Southeast Asia and attempt to contain the economic crisis before it hits the US and disrupts stability regionally.
- US should bolster military funding to Southeast Asia in the short-term, through IMET programs, increased funding of operations, presence in the region, and collaborating to ensure that Southeast Asian countries can continue to exercise with the US, despite economic woes.
- In addition, the US should modify the San Francisco system to appease Japan and engage China in a way that requires reciprocity, based on actual behavior.
- The US should stay the course in the South China Sea, continuing to remain neutral but providing military escort services.

DISCUSSION

Due to time constraints, there was only time for one question. A participant asked Maj Long whether US humanitarian assistance should come through the military or through non-governmental organizations (NGOs) and civilian groups. The participant feared that a military

presence might bolster the idea in SE Asia that the military should play a large role in civilian society—an idea that contributes to instability and repression. Maj Long agreed that in the long-run, a civilian presence would be preferable. However, the US military has the most immediate capacity to provide aid, and thus should be used for these purposes. The sooner the US appears interested, the better.

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Panel 6.

USAF Issues

Lt Col Alan Van Tassel, Chair
Maj Gregory A. Cate
Capt William C. Thomas
Capt Sean Cantrell
Maj Kenneth Thompson

1998 Research Conference

PANEL 6: USAF ISSUES

Chair: Lt Col Alan Van Tassel, OSD/S&TR, Chair
Panelists: Maj Gregory A. Cate, 89th Contracting Squadron
Capt William C. Thomas, HQ AFDC
Capt Sean Cantrell, 315th Training Squadron
Maj Kenneth Thompson, SAF/TW

PANEL PRESENTATIONS:

"Lessons Learned from Privatization at Newark AFB and the Effects of Privatization on AF Missions," Maj Gregory A. Cate

Maj Cate's paper focused on assessing the impact of privatization on Air Force roles and missions. Specifically, he decided to examine lessons learned from privatization at Newark AFB, Ohio, and its effects on Air Force missions. Maj Cate chose Newark AFB for several reasons: 1) Newark AFB was the first privatization-in-place (PIP), dating back to December 1995; 2) the Aerospace Guidance and Metrology Center (AGMC) at Newark became the Boeing Guidance Metrology Center (BGMC); 3) as the only operational Air Force depot to have undergone privatization to date, Newark AFB provides an excellent test bed for lessons learned and mission impact.

Maj Cate first discussed funding issues related to the AGMC and BGMC. Studies conducted before the PIP revealed a strong disagreement in discerning the cost differentials between privatization and non-privatization. Table 1 illustrates the results of AFMC studies comparing the estimated fiscal year 1997 costs for same workload (dollars in millions).

AFMC COST ANALYSIS		
OPERATIONS	PRE-AWARD	INTERIM
AGMC DEPOT	\$99.8M	\$84.2M
BGMC DEPOT	\$94.8M	\$98.3M
DIFFERENCE	\$5.0M	-14.1M

Table 1

On the flip side, Maj Cate discussed a study conducted by BGMC comparing estimated fiscal year 1997 costs for same workload (dollars in millions). This study came up with different results, illustrated in Table 2.

Maj Cate then discussed the impact of privatization on Air Force missions. Through his research, he discovered that privatization has impacted mission accomplishment in both positive and negative ways. On the positive side, the Air Force mission, according to Maj Cate, is being accomplished quicker and with equal or more reliability than under the old civilian (Newark

AGMC COST BGMC COS		
UNITS REPAIRED	5480	6950
O & M(a)	\$70.5M	\$61.1M
WARD FEE(b)	N/A	\$6.1M
TOTAL	\$70.5M	\$67.2M
INFLATION 2YRS @ 2.5% (c)	\$3.5M	N/A
PROJECTED COSTS (1997)	\$74.0M	\$67.2M

a O&M – Operations and Maintenance
 b Award Fee – Applies to BGMC only
 c Inflation – Projected inflation rate added to AGMC cost to account for FY95 - FY97

Table 2

AFB) depot system. On the negative side, the cost of completing repairs has apparently increased. Maj Cate noted that this fact is disputed between contractor and government. Table 3 illustrates one example of quicker mission accomplishment.

Comparison of Units per Month and Turnaround Times (TAT) for ICBMMGs for both BGMC and AGMC				
	ORG	UNITS PER MONTH	TAT PK(a)	TAT MM(b)III
•	FY 95 AGMC	29 UNITS	77 days	44 days
•	FY 97 BGMC	32 UNITS	56 days	35 days

(a) PK – Peacekeeper weapon system
 (b) MM – Minuteman weapon system

Table 3

Maj Cate referenced other specific studies relating faster, reliable mission accomplishment and concluded that privatization has had a significant impact on the operational side. However, he re-emphasized the possibility that it is costing more to complete the mission in the same manner that it was done before privatization took place. The problem with this, of course, is that when additional money is used, another mission suffers.

Maj Cate concluded his presentation with the following statement: Unlimited resources help schedules. Specifically, he explained that in the Newark AFB study, the contractor met mission requirements by being allowed to conduct repairs without regard to material cost and usage. The Cost Plus Award Fee contract led to waste because the emphasis was on meeting schedules. Maj Cate offered that this contract awarded BGMC for on-time repairs, not cost-effectiveness. Thus, he concluded that any future privatization contracts should include

incentives for multiple outcomes, such as: process improvements, cost savings, schedule, quality, and responsiveness.

"The Next Peace Operation: USAF Issues and Perspectives," Capt William C. Thomas

Capt Thomas remarked that the purpose of his paper is to identify military issues and flashpoints that will likely predominate in the next peace operation. He focused his paper on four areas: doctrine and metrics; education and training; impact on military readiness; and recommendations. Capt Thomas described his research methodology as including a doctrine and literature review, personal interviews, and direct observation via field visits to collect both historical and current data regarding the nature of peace operations and effective use of aerospace power. His field visits included the Combined Air Operations Center in Vicenza, and Task Force Eagle and 401st EABG in Tuzla, Bosnia-Herzegovina.

Through a review of Joint, Allied, and Service perspectives on the principles of peace operations, Capt Thomas concluded that it is neither required nor appropriate for the Air Force to have operational doctrine for peace operations. Because peace operations tap into Air Force functional capabilities, (Counterland, Psychological Operations, and others), Capt Thomas believes that trying to capture the application of these capabilities into doctrine for peace operations is unwise. This is because peace operations encompass everything from unarmed observation to armed enforcement.

Instead, Capt Thomas suggests the Air Force become well-versed in applying doctrine for specific capabilities in the context of peace operations. Lessons learned from peace operations should be incorporated into the doctrine of these functional capabilities, particularly Airlift, Aerial Refueling, and Air Mobility support. Capt Thomas offered several critical issues that should be addressed:

- United Nations authorization and regional organizations
- Rules of engagement
- Displaced persons and refugees
- De-mining
- Civil-military relations
- Normalization
- Media
- Force protection
- Personnel policies.

Capt Thomas then discussed measures of effectiveness (MOEs). He explained that MOEs are difficult to devise for peace operations because these missions are typically long-term and do not require military power to be the decisive factor in conflict resolution. Furthermore, Capt Thomas offered that developing a common set of metrics for peace operations is very difficult because each operation has its own unique characteristics. Nevertheless, Capt Thomas did suggest four general MOEs: mandate performance; facilitating conflict resolution; conflict containment; and limiting casualties.

Capt Thomas' research also revealed that little training is required for Air Force forces that would be different from their regular training for combat. He remarked that combat, support, and mobility forces use essentially the same skills in peace operations that they would in

wartime. However, a difference does exist with combat air forces and mission planners, who typically operate under more restrictive rules of engagement in peace operations. In terms of education, Capt Thomas found that forces could be better educated on the proper application of Air Force doctrine in peace operations, as well as the potential problems inherent in multinational peace operations.

Finally, Capt Thomas described the positive and negative impacts of peace operations on military forces. On the positive side, support forces benefit from the experience of peace operations. This is because the experience gained in a real-world deployment often outweighs that gained in exercises or in-garrison deployments. On the negative side, aircrews miss valuable training time and are less available to re-deploy to a larger conflict. According to Capt Thomas, this makes the job of mission planners more difficult.

Capt Thomas concluded his presentation by offering several recommendations:

- The most powerful contribution of airpower is likely to be air mobility.
- Be prepared to rapidly re-deploy personnel and equipment to a MTW.
- Do not designate Air Force units for peace support operations.
- Determine the best mix of forces, rather than using all available assets.
- Use individual rotation policies when appropriate.
- Increase the use of Reserve and Guard.
- Take steps to minimize adverse impact on readiness.

"Integrated Intelligence Operations: A Prerequisite to Force Protection," Capt Sean Cantrell

Capt Cantrell stated that since the Khobar Towers terrorist attack, there has been a sense of urgency at improving and standardizing USAF-wide Force Protection (FP) physical security measures. However, because Air Force forces do not require immediate physical proximity to an adversary as do ground forces, Capt Cantrell suggested that the Air Force will continue deploying its forces to predominantly USAF-manned forward bases. As such, Capt Cantrell offered that the USAF, in most cases, would not be protected by the Force Protection umbrella of US ground forces.

Instead, the USAF will rely increasingly on its own ground defenses in joint military operations. As these operations become more complex and less defined—to include humanitarian and peacekeeping missions—the USAF will rely not only on Force Protection, but also on specific intelligence to guide that FP. Capt Cantrell commented that the Khobar Towers terrorist attack demonstrated that FP is not enough for the US to eliminate attacks on US soldiers. Intelligence is crucial.

The problem, according to Capt Cantrell, is that current Force Protection Intelligence (FPI) support to USAF security forces is inadequate. Current FPI capabilities cannot significantly reduce the threat posed against deployed USAF assets and personnel. Capt Cantrell emphasized that this inadequacy is ever more dangerous as the increased frequency of confrontation with non-traditional adversaries expected of US forces will rely more on FPI capabilities. Thus, Capt Cantrell stated that the US needs a robust system to provide timely and accurate intelligence to USAF security forces.

To Capt Cantrell's surprise, the severe lack of robust FPI capabilities has not spurred a corresponding level of urgency or standardization related to FPI. To partially correct this, Capt Cantrell suggested that current thinking about FPI as an outflow of counterintelligence (CI) operations must be re-examined. In his view, the capability to collect, analyze, and implement intelligence to protect US forces must be utilized in an offensive, rather than reactionary, role.

In conclusion, Capt Cantrell remarked that in order to develop agile worldwide USAF FP capabilities, an integrated intelligence organization is needed. This organization should combine several key areas: combat intelligence, counterintelligence, special operations forces, security forces, and aviators. Only by combining these areas, explained Capt Cantrell, can the USAF manage to capture the expertise needed to manage the collection and analysis of the information critical to ensuring the safety of US forces.

"F-16 Uninhabited Air Combat Vehicles," Maj Kenneth Thompson

Maj Thompson opened his presentation by explaining that the US military needs another weapon system option to overcome current cruise missile limitations. Specifically, he suggested that the US needs to field an interim uninhabited combat air vehicle (UCAV) program for political, economic, and military reasons.

The origins of the problem, according to Maj Thompson, are two-fold. First, for United Nations (UN) "police actions" such as Iraq and Bosnia, the US population and USG politics demand military results without loss of life. Second, the cruise missile is the only weapon the USG can use to satisfy these requirements. The problem, of course, is that cruise missiles have limitations:

- Cruise missiles are not reusable and cost \$1.2 million per unit.
- Cruise missiles do not have "man-in-the-loop" verification and re-targeting capabilities.
- Cruise missiles are ineffective against hardened, underground, or mobile targets.

Maj Thompson explained that economically, reusable UCAVs are more cost effective in the long-run than a one shot million dollar cruise missile. Militarily, cruise missiles have ordnance and target limitations that are overcome by the variety of weapons employed by a UCAV and its "man-in-the-loop" capability. In fact, the USAF scientific advisory board's *New World Vistas*, DARPA, and the *Air Force 2025* project all recommended expanding production of unmanned aerial vehicles (UAV) programs for surveillance and reconnaissance missions to include development of "lethal" UAVs, or UCAVs. The problem, however, is that budget constraints and a reluctance on the part of USAF leadership to transition to an unmanned combat force have placed new, advanced technology UCAVs decades away from operational status.

Maj Thompson then offered the advantages and disadvantages of UCAVs as compared to manned aircraft. On the advantages side, Maj Thompson explained that UCAVs cost less per aircraft, have increased range and endurance, are free from pilot limitations, have lower training and support costs, and are free from the risk of POW or casualties. On the downside, however, UCAVs are more difficult to refuel mid-air, and are susceptible to enemy datalink jamming and manipulation.

One solution, suggested by Lockheed Martin Corporation, recommended the modification of "boneyard" non-flying F-16As into UCAVs. However, Maj Thompson stated that an investigation of this idea yielded several limitations and concerns that led to the formulation of an alternative F-16 UCAV solution. The concerns over use of F-16A aircraft included: No night capability; high cost to modify; new support infrastructure requirements; no precision guided missile (PGM) capability; pilot shortage; and air refueling limitations.

Another proposal included modifying current F-16Cs into "dual-role" manned and unmanned capable aircraft. Maj Thompson explained that with the addition of remote control equipment, a few squadron jets (4-6) could be converted into "dual-role" aircraft. These selected F-16Cs could continue to fly as normal manned aircraft or, if needed, as unmanned remotely piloted UCAVs. These aircraft would rely on the same pilots and maintenance/support personnel and facilities, thereby making them a cost-effective and capable interim unmanned military option.

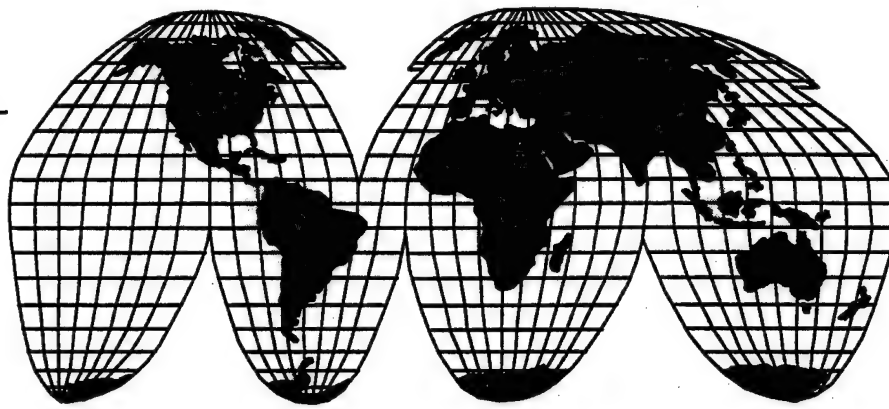
In conclusion, Maj Thompson emphasized the importance of proceeding with the F-16C UCAV program. He suggested the USAF immediately begin the development, testing, and conversion of these aircraft into dual-role UCAVs. He further noted that a successful interim F-16C UCAV program would help the USAF with the psychological transition to unmanned combat air operations.

DISCUSSION:

After presentations concluded, panelists fielded several questions. One participant asked Maj Cate if contractors are typically granted unlimited access to materials, as was the case with Boeing at Newark AFB. Maj Cate responded that this practice is not typical. He explained that normally, contractors are not allowed unlimited access to materials; rather, they are granted provisions that are carefully tracked by the USAF. Another participant asked Maj Cate if forcing contractors to monitor costs carefully would have any deleterious affects on privatization efforts. Maj Cate responded that the possible negative consequences included reduced quality of work, and less reliable attendance to scheduling deadlines.

Another participant echoed Capt Cantrell's view that FPI is inadequate and that something must be done about it. Specifically, the participant noted that USAF culture must change and that appropriate intelligence units should be formed.

Finally, a participant applauded Maj Thompson's conclusion that F-16C aircraft should be modified to operate in manned and unmanned modes. However, the same participant emphasized that this approach would encounter serious opposition among the current USAF cultural mindset. Maj Thompson agreed.



Panel 7.

**Regional Security--
Arms Transfers**

Col Richard M. O'Connor, Chair
Col (S) James E. Moschgat
Lt Col Daniel L. Scott
Lt Col Antonio L. Palá
Dr. Frank O. Mora

1998 Research Conference

PANEL 7: REGIONAL SECURITY—ARMS TRANSFERS

Chair: Col Richard M. O'Connor, SAF/IAL
Panelists: Col (S) James E. Moschgat, 612th Combat Plans Squadron
Lt Col Daniel L. Scott, NAOC Intelligence Branch
Lt Col Antonio L. Palà, Department of Foreign Languages, USAFA, and
Dr. Frank O. Mora, Rhodes College

PANEL PRESENTATIONS:

“Co-production in the Middle East: Engagement or Entanglement?” Col (S) James E. Moschgat, 612th Combat Plans Squadron

Col James Moschgat introduced his paper by explaining that he takes a pilot's perspective on the issue. In fact, the genesis of the paper was an incident Col Moschgat experienced in Turkey. As his squadron was preparing for a NATO Tactical Evaluation (TACEVAL), Turkey grounded the squadron over a dispute with the US government related to buying goods for the base locally versus shipping them from the US. The incident spurred Col Moschgat to consider ways the US can interact more positively with host nations. Col Moschgat also caveated his presentation by explaining that while the title specifies the *Middle East*, it includes discussion of Turkey, a country many do not consider strictly part of the Middle East.

As background, Col Moschgat explained that co-production is the joint manufacture of weapons systems originally developed in one country. It is one of many security assistance tools and is governed by the Arms Export Control Act of 1976. Col Moschgat believes it is a potential “key element,” of US foreign policy, but underscored that it is just one tool of many. The idea came about in the aftermath of World War II as a way to help rebuild Japan's and Europe's economy. In the early days, 80-95 percent of co-production was focused on Japan. In fact, there are only two joint ventures in the Middle East, in Turkey and Egypt. Co-production, Col Moschgat explained, has always been a “hot and cold” topic, with strong advocates and strong detractors. One of the most successful co-production efforts was the NATO production of the F-16, which set the standard for co-production due to its high success.

Col Moschgat set the stage by explaining why the Middle East is ripe for co-production efforts. In recent years, politics has transformed the Middle East arms market. Due to wars of attrition, the rise in oil prices resulting from the oil embargo, which increased wealth significantly in the region, the Iranian revolution, and other incidents, the arms market in the Middle East is lucrative. By 2002, some predict that 39 percent of all arms sales worldwide will be to Turkey and the Middle East. Moreover, the Gulf War validated US superiority in weapons production, so there is a high demand for these superior weapons.

Col Moschgat pointed out that co-production is a *tool* and thus must be used appropriately. He suggested that it be used to support the following strategic objectives:

- Encouraging lasting Arab/Israeli peace;
- Maintaining steadfast commitment to Israeli security;
- Ensuring stability in the Gulf region;
- Combating terrorism;
- Providing access to business interests in the region; and,
- Promoting the rule of law and respect for human rights.

In addition, co-production needs to support DoD objectives of providing cost effective military equipment, opening/ensuring access, and ensuring interoperability. For the country involved, co-production has a variety of benefits, including promoting national/international prestige, gaining military and economic autonomy, forcing technological advancement, spurring economic growth, retaining capital spending on arms, and developing new industries.

While co-production has advantages, not all countries are appropriate candidates. In the Middle East, the poorest countries are obviously not good candidates, since they cannot afford weapons production. On the other hand, the richer countries are more likely to buy their arms outright. Thus, the main candidates for co-production from a purely economic standpoint are: Turkey, Egypt, Israel, Iraq, Libya and Iran, although Iran, Iraq and Libya, are proscribed for the time being. As for the most likely weapons systems, two that are currently in co-production are the F-16 and the M1A1 tank. These provide useful case studies applicable to other programs.

Col Moschgat then offered an overview of each of the programs in place today, assessing how well each has done and making recommendations for US policy based on these two case studies. Turkey's F-16 Program (Peace Onyx I and II) has been in existence since 1983 and is slated to end in December 1998. The cost of the program was \$6.8 billion. The program has been relatively successful; Turkey produces 95 percent of the aircraft, at a cost only 10-20 percent higher than US produced F-16s. By the end of the program, Turkey will possess the third largest fleet of F-16s in the world. And, unknown to many, Turkey produced 46 F-16s for Egypt.

The partnership has been innovative, with shared risk and profit. In fact, the contractor has a 30 percent interest in the Turkish plant; this arrangement has spurred training by the contractor to the Turks, and the Turks have an on-time, on-schedule program that comes close, if not surpassing US standards. Workmanship is superior and the aircraft produced are of exceptionally high quality. The result has been an enduring partnership that goes well beyond the F-16. Importantly, the US has never used the program to gain political leverage. This is critical to building trust across partners.

The M1A1 program in Egypt, however, has been less successful in Col Moschgat's estimation. It began in 1991 and will also end this year. Unlike the F-16 program, this program was less of a partnership, with Egypt shouldering the main cost of the program. The cost was approximately \$3.2 billion to co-produce and procure 555 tanks. The problems with the program were many. The program added over \$820 million to the normal costs of producing that many tanks; it is not economically viable in the long run; and Egypt never really gained self-sufficiency in production, producing only 19% of the tank itself. On the positive side, the US did not use the program as political leverage; Egypt gained a world class facility, learned US management style, and gained a skilled labor pool.

Col Moschgat described why the program has such a tarnished image. First, the Egyptians could not fund it or really afford it. Second, expectations exceeded the agreement. Moreover, no binding partnership was formed, and the plans were flimsy and short-sighted. Today, the Egyptians are left with an extremely expensive plant that could not pay for itself, even if it began producing high demand consumer goods. Moreover, Egypt has no plan for converting or exploiting this costly facility when the M-1A1 production run ends.

Col Moschgat concluded the following regarding co-production:

- Co-production is a viable tool;
- While it does not provide immediate leverage, it offers long-term goodwill and access;
- It is designed to build trust and foster relations, rather than more short-term political leverage, thus, US must use it carefully;
- It should be viewed as one strand in our larger policy of engagement;
- Co-production requires a long-term commitment;
- Co-production does not guarantee political cooperation;
- Trades technical expertise for strategic access;
- It can, and should, create multiple bonds (corporate to government; government to government; corporation to corporation) and should not just be a government-to-government effort;
- Not all weapons are amenable to co-production;
- Not all nation-states are good candidates for a co-production effort;
- Goals and expectations must be well-understood by all parties in advance of initiating production.

Col Moschgat recommended that the US retain co-production as a political tool, encouraging corporate involvement. Moreover, when considering co-production, the US should apply proven economic planning factors and may want to consider aggressively marketing co-production. To date, the US has primarily been responsive rather than proactive in initiating co-production efforts. Col Moschgat also recommended forming one single government oversight agency. Europe has such an entity that allows for greater consistency and marketing, while the US approach to co-production is very fragmented, with no centralized location for directing such efforts. Finally, he suggested that a more multilateral, rather than bilateral approach be taken. For example, Turkey currently desires a main battle tank (1,000) and Egypt recently built a tank production facility; thus, there seems an obvious marriage of interests that could be used to build good relations in the region.

In short, Col Moschgat summarized:

- Co-production is a valid foreign policy tool;
- Promotes engagement and enlargement;
- Can be entangling, if not properly executed;
- Does not guarantee political harmony and cooperation;
- Could be employed in a multilateral context to promote regional relations, but that would likely require the US to create a single oversight agency to manage co-production efforts.

DISCUSSION

Following Col Moschgat's presentation, the Chair opened the floor for questions. One participant asked whether Col Moschgat examined any potential co-production that would include Israel, especially one that would include Egypt, Israel and Turkey as a means to promote increased regional interdependence and cooperation. Col Moschgat said that he had, but much of the material was classified, especially that related to the Arrow Program. Israel desires more F-16s, so theoretically, it could join Turkey in its co-production effort, but adding Israel would likely create tension. While a bilateral effort with Turkey could work (Egypt being more problematic), few in Washington would agree.

Another participant asked Col Moschgat to elaborate on not using co-production as a political lever, but still applying conditions (as Col Moschgat suggested). At what point do conditions cross over to being a political lever? Col Moschgat felt that this would best be handled by following existing guidelines on technology transfers and clearly spelling these conditions out in the pre-agreement so that conditions are understood well in advance. The same participant asked whether in Col Moschgat's research, he saw any cases where the US refused requests by co-production partners. Col Moschgat said that there were, indeed, such cases. For example, Turkey wanted to produce/reconfigure the software of the F-16. The US refused this request since this technology is proprietary and would give Turkey the capacity to produce the F-16 without the US.

Col Moschgat noted that the US, both for security and economic reasons, must retain technology which gives it the edge in aircraft production. On the other hand, Col Moschgat noted, these restrictions can sometimes cause nations to turn to France or other countries for dual efforts or arms transfers. It is a fine balance; how much does the US need to retain to prevent it from losing control of the technology while still being viewed as a cooperative partner? Col Moschgat argued that a single oversight agency would provide a better forum for making these decisions. He noted that in conducting his research, he was concerned that so many of these decisions were being made by low-level decision-makers who did not have access to the "bigger picture." Finally, a participant asked what type of single authority did Col Moschgat envision; who would control it? Col Moschgat responded that the State Department was the optimal place for such an agency to reside since it could create an overarching and streamlined framework that could proactively seek co-production arrangements, as our allies are doing. However, DoD involvement would remain vital.

"Limiting Combat Aircraft Sales to Latin America," Lt Col Daniel L. Scott

Lt Col Scott explained that his paper assesses the issue of whether the US should promote the sale of combat aircraft sales to Latin America. To assess the issue, Lt Col Scott examined the perceived threat in Latin America, desired capabilities, the cost savings that would result from modernization, sovereignty issues, and US interests in the region.

As for the threat, Lt Col Scott assessed that today, there is very little traditional conflict in Latin America. There are few inter-state disputes, other than some border tensions. Indeed, the real threat to Latin American countries is from poverty. Only Chile, Peru, and Uruguay are better off now in per capita wealth than they were in 1980. The high cost of such planes could exacerbate poverty since the government would be investing significant amounts in a weapon, rather than in social programs and economic development to offset poverty. With the exception of Chile, Lt Col Scott believes these countries are simply too poor to buy what the US might want to sell them.

In terms of desired capabilities, Lt Col Scott has yet to see convincing requirements for sophisticated combat aircraft. While Latin America countries might argue that they need them for border patrol, counter-insurgency or to prevent drug trafficking, these combat aircraft really have little utility to counter these threats. Another reason these countries offer for wanting to acquire these capabilities is to take a more active role in international activities, such as peace operations. Lt Col Scott argued that Latin American countries have been very active in these types of operations in recent years. However, he does believe this is a legitimate reason to acquire combat aircraft because it is unlikely that any of these countries would risk their entire

strategic force to support a peace operation. Moreover, would the US really want this type of assistance or are ground troops needed more?

Lt Col Scott also disagrees that the purchase would result in significant cost savings. First, it is an unproven assumption that modernizing the inventory will significantly reduce costs. This is particularly true in Latin America where there are insufficient economies of scale. Moreover, it is unlikely that a buyer will get rid of its existing aircraft, since that would make it strategically dependent on the US, something no country desires. It would thus be burdened with supporting a multifarious fleet consisting of just a few aircraft of each type. Finally, in terms of sovereignty issues, Lt Col Scott does not believe purchasing combat aircraft is warranted, despite the argument that it is not fair for the US to tell Latin America what they can or cannot buy. The US does so all the time, however, in terms of nonproliferation, International Monetary Fund restrictions and others. The US has the right not to sell arms, if it so chooses, and need not abrogate this sovereign prerogative, notwithstanding any other nation's insistence on its right to buy.

Lt Col Scott then examined the other side of the coin. Do arms sales to Latin America serve US interests? Again, he argued that they do not. In terms of regional security, the US has taken the lead in arms control in the region, through promoting transparency, confidence and security building measures (CSBMs) and others. Combat aircraft sales could jeopardize this progress. The US also has an interest in promoting economic prosperity in the western hemisphere, yet sales of these aircraft do little to bolster either US or Latin American economies. As for the US, taxpayers end up subsidizing the sales at almost 50 percent through waived R&D costs, Foreign Military Financing, and offsets; thus, for \$15 billion in sales, the taxpayer pays \$7 billion. Moreover, offsets actually deny jobs to US workers and take them to foreign countries. Investing in consumer good production would do much more to stimulate the economy. In fact, a 20 percent military spending cut is estimated to create a \$190 billion consumer market.

As for other US interests in the region, Lt Col Scott does not see them as well-served by sales of combat aircraft. While some could see them as a vote of confidence to legitimate governments, which could help promote democracy, he believes the bigger threat to democracy in the region is poverty, and poverty is not ameliorated by sales of combat aircraft, but exacerbated. While it might promote engagement and interoperability, there is no guarantee that these countries would ultimately purchase US systems. The US and the USAF need a focused plan to engage these militaries, but not through aircraft sales. Rather, they should engage Latin America through assisting with planning, exercises, increasing communication links and setting common doctrine. He also pointed out that lower tech transfers, like helicopters and trucks, would be much more useful for the cost.

To summarize, Lt Col Scott assessed whether US sales of combat aircraft to Latin America is advantageous on an array of criteria, using the following matrix:

Requirements	"+"	"-"
Threats		✓✓ (combat aircraft sales do little to counteract the real threats in the region, and may even exacerbate poverty)
Capabilities		✓✓ (sales do not provide the capabilities these countries need)
Costs	—	— (it could reduce costs some through modernization, but economies of scale mean few potential savings, if any)
Sovereignty	✓	✓ (while it allows these countries to make their

		own decisions, it creates some dependency)
Security		✓✓ (potentially de-stabilizing in the region)
Prosperity		✓✓ (again, more likely to impoverish)
Democracy		✓ (biggest threat to democracy in the region is poverty, exacerbated by military budgets)
Engagement	✓ (biggest advantage, but not enough to warrant pursuit)	
Interoperability	✓ (some advantages but no guarantees they will buy US equipment; other areas should take precedent).	

DISCUSSION

Following Lt Col Scott's presentation, one participant agreed that Lt Col Scott's argument was convincing relative to high-end aircraft, such as the F-16. However, he questioned whether or not the US should pursue sales of "appropriate" technology to the region since if these countries cannot purchase arms from the US, they will likely go elsewhere. Lt Col Scott did not agree with the premise that these countries will merely turn to other sellers. He believes that the US can set a precedent and send a strong message to refrain from selling arms to this region. Another participant asked whether or not other countries were aggressively pursuing sales to this region. Scott explained that the market to the region is actually fairly small, with Chile the biggest potential buyer, desiring 10-12 aircraft at most. Thus, there has not been nearly the interest in selling arms to Latin America that there is in selling arms to the Middle East. One participant added, however, that Sweden has been marketing the Gripen fairly heavily since it needs to sell it overseas. Finally, a participant asked Lt Col Scott to clarify his assertion that taxpayers subsidize arms sales at almost 50 percent. The group discussed some of the ways that government offsets and loans end up indirectly and directly subsidizing arms sales.

"Arms Transfers and Latin American Domestic Defense Production," Lt Col Antonio L. Palà and Dr. Frank O. Mora

Lt Col Palà introduced his presentation by explaining that the paper he authored with Dr. Mora takes the opposing side from Lt Col Scott's position on the question of "to sell or not to sell." To begin, Lt Col Palà explained that the scope of the question is really quite small, applicable to only six or seven countries in the region with the potential to buy advanced fighter aircraft. While they take an opposing view, they complimented Lt Col Scott's paper for addressing the issue. To date, the largest voice has been that heard from industry advocating sales, and there is no articulated USSOUTHCOM policy. Thus, Lt Col Palà felt that even opposing viewpoints would spark debate and allow a more coherent US policy.

Lt Col Palà explained that their research sought to address the main criticisms opposing any decision to lift the ban on combat aircraft sales to Latin America. Their conclusions run counter to much of the conventional wisdom opposing sales to this region. Backers of the "don't sell" point of view include Former President Jimmy Carter and Senator Biden who characterize sales as a zero-sum prospect. However, Lt Col Palà and Dr. Mora do not believe that US arms sales to Latin America need to be viewed this way; done correctly, US sales of combat aircraft to Latin America could result in a win-win outcome.

Lt Col Palà presented a brief historical overview of the issue. The prohibition against selling advanced fighter airplanes to Latin America is actually rooted in the Foreign Military Assistance Act of 1961. In 1976, largely due to repressive regimes and ideological conflict in

Latin America, Public Law 94-329 was passed, followed by the Kennedy Amendment, which actually targeted General Pinochet. President Carter issued Presidential Directive (PD)-13, making it official US policy to link arms transfers with human rights. When President Reagan came to office, he did not overturn PD-13, but rather, "tinkered" with it, allowing sales of some weapons (such as F-16s to Venezuela), but maintained the ban generally.

The recent debate was sparked by President Clinton's decision to modify the Conventional Arms Transfer Policy and permit sales of advanced military technologies as a legitimate instrument of US foreign policy, e.g., to help promote regional stability, enable US allies to deter aggression, increase interoperability, and enhance US regional presence. Lt Col Palà argued that arms transfers to promote these objectives must be coupled with ministerial and high-level involvement to enhance peace. However, the real point is that the political landscape in Latin America today is significantly different than it was when these restrictions first were adopted. Today there are few ideological threats in the region; most countries are democratizing, and the Organization of American States (OAS) has adopted Resolution 1080, calling on countries to isolate those states that seek to subvert constitutional order. There are very few inter-state hostilities in the region and there is increasing civilian control of the militaries.

Lt Col Palà and Dr. Mora then enumerated the five major arguments for maintaining the ban and addressed each. First, some argue that the economic cost incurred if Latin American countries purchase F-16 or F-18s is simply too great. Lt Col Palà and Dr. Mora agreed that the critics have a strong argument. These countries are underdeveloped and in debt; thus, major expenditures on arms appears counterproductive. Lt Col Palà and Dr. Mora refuted the argument, however, as being based on zero-sum logic. There is no proof that money *not* spent on weapons would be used to benefit the poor or invested in socioeconomic programs. In fact, modeling by DeRouen shows that this is often not the case. Moreover, arms acquisition can even promote economic growth, according to some economic models (Frederickson and Looney). While Lt Col Palà and Dr. Mora do not go this far, they do not believe that eliminating sales will necessarily spur economic development in the region.

A second argument against lifting the ban is that these countries do not need the weapons. The presenters countered this argument. These states are sovereign and it is not the US's place to tell them what they do or do not need for their security. With the exception of Cuba, all countries in the region are democratic and should enjoy the sovereign privilege of determining the optimal force structure to provide for their defense. Moreover, the presenters believe that these countries have some missions that would warrant need for these types of aircraft, such as combating drug smuggling, counterinsurgency missions and humanitarian relief missions. Dr. Mora said that 10 percent of all peacekeepers are from Latin America. It is valid that these countries desire F-16s and F-18s to participate in these operations as more full partners.

A third reason critics use for maintaining the ban is that arms sales in the region will weaken democracy. Dr. Mora argued the opposite – that sales of combat aircraft to these states could actually help strengthen democracy in the region. First, it would act as a "reward" to militaries in the region for increasing civilian control. Latin American countries have reduced arms production by half since the end of the Cold War, and militaries in the region have been modernizing their militaries significantly since 1996. Not allowing the military to buy these aircraft could make the military leaders appear weak, feeding ultra-nationalist ideas that the US is trying to "disarm" the region. Lt Col Palà and Dr. Mora believe that a "lean and mean" military will ultimately enhance democracy more than a disgruntled military.

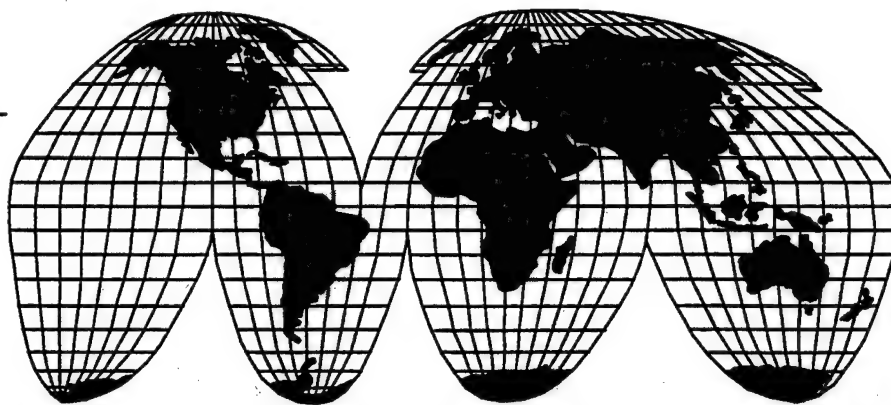
Another argument is that selling arms to the region would be de-stabilizing. Again, Dr. Mora and Lt Col Palá disagreed. Latin America spends the least amount of its gross domestic production on arms of any region and there is a noticeable lack of interstate conflicts. OAS has instituted significant confidence and security building measures (CSBMs) and the US, in selling arms, could use the leverage it would gain to help encourage and promote even greater transparency.

Finally, critics suggest that the only reason for modifying the Conventional Arms Transfer Policy and permitting sales of combat aircraft is to placate industry, which has been pressuring for sales. While industry has been active in the debate, the market is actually fairly small, relative to other areas. Thus, the presenters concluded that the criticisms do not really stand up to counter-arguments.

Dr Mora and Lt Col Palá also stressed the negatives of maintaining the ban. The US has lost significant influence and leverage in the region. Other countries, such as France, Russia and Israel have continued to sell planes in the region, opening ties, training pilots, and creating a regional presence. Ninety percent of the planes in the region are no longer in the US inventory, reducing operability, training and mil-to-mil contact opportunities, and making joint exercises less likely. Yet, Latin American pilots are often the military leaders in these countries. Losing important contacts is highly detrimental to US interests in the region, as well as to encouraging and promoting democracy and civilian control. Thus, Dr. Mora and Lt Col Palá concluded that the US should take a more realistic approach to selling arms to the region. They recommend that the US sell advanced aircraft on a case by case basis, within the context of the 1995 Williamsburg Hemispheric Defense Ministerial Conference, stressing transparency, accountability and mutual cooperation.

DISCUSSION:

Due to time constraints, only brief discussion followed the presentation. One participant suggested that the State Department is simply reluctant to deal with Latin American militaries at all, "wishing they would go away." Lt Col Palá and Dr. Mora agreed that this might be true, but it is not a realistic policy to pursue. While initially the US and international community were negative towards Argentine participation in peace operations, that is no longer the case, and Latin America has increased its activity in this area significantly. The authors also reiterated that they believe it is more dangerous to ignore the militaries in these countries than to engage them and interact in a way that instills professionalism and cooperation. Selling aircraft would give the US an opportunity to influence them in a positive way, especially if the sales are undertaken within an institutional framework, rather than as a commercial venture. Another participant asked how these countries frame their requirements for advanced aircraft. Dr. Mora responded that they, like most other militaries, want high level capabilities. They have thousands of miles of coasts to protect; they participate in peace operations; they want to help enforce no-fly zones; and need the capabilities to do so. In fact, Dr. Mora felt that the US could be setting itself up to have to act as the world's policeman, if we do not let other actors in and allow them to have the capabilities to assist in these types of operations.



Panel 8.

Regional Security-- NATO Enlargement

Col David Anhalt, Chair

Dr. Robert Dorff

Col Samuel Grier

Maj Mark Gose

Lt Col Joseph R. Wood

1998 Research Conference

PANEL 8: REGIONAL SECURITY—NATO ENLARGEMENT

Chair: Col Dave Anhalt, OSD/Net Assessment

Panelists: Dr. Robert Dorff, US Army War College
Maj Mark Gose, Department of Political Science, USAFA, presenting for
Col Samuel Grier, Department of Computer Science, USAFA
Lt Col Joseph R. Wood, French Joint Defense College, Paris

PANEL PRESENTATIONS:

"Public Opinion and NATO Enlargement," Dr. Robert Dorff

Dr. Dorff thanked INSS for supporting his research project and providing a forum to present the results. His project looked at public opinion polls and survey data related to the issue of NATO enlargement. What is striking, in Dr. Dorff's view, is that he found a general lack of debate in the public arena on the issue. NATO's enlargement is a momentous decision for both NATO and Western security; yet, there has been comparatively little discussion about the decision in the public arena. Dr. Dorff found this to be curious but did not focus his research on answering the "why" question. Instead, the paper analyzes the extent of support for NATO enlargement, the depth or intensity of that support and its implications. What he found was that attitudes towards enlargement were generally favorable, but rather formless and not deeply held. Deep public support may not be a pre-condition for enlargement; however, he believes that the lack of deeply-held beliefs could have negative implications down the road when enlargement moves beyond symbolic issues and requires commitment and political will. He advocates that public leaders begin shaping debates now, rather than waiting for a crisis when hard decisions need to be made.

While there is a section in his paper discussing the difficulty of measuring public opinion, he suggested that participants read the paper, so he could keep his presentation within the time constraints. More central to his findings is the tenet that the content of public opinion is less important than the intensity with which it is held. Deeply-held opinions lead to opinion "stability;" individuals with strongly-held opinions are more likely to base their behavior on those opinions and act on them, including actively influencing the policy process. On the other hand, if there is little cognitive context underlying the opinion, one perceives highly unstable public opinion. This can be positive, in that opinion is malleable and subject to leader influence. However, it is negative in the sense that it can shift in the formative stages, absent any more solid grounding.

In conducting his research, Dr. Dorff looked at public opinion in three primary groups: The new NATO member-states (Poland, Hungary and the Czech Republic); the older NATO countries (France, Great Britain and Germany) and the US. In the new NATO countries, he found, again, a striking absence of debate, especially since if anywhere one would expect to see widespread discussion, it would be among these countries. Only in Hungary was a national referendum held; 85 percent favored entry into NATO. While this seems like an overwhelming endorsement, Dr. Dorff explained that the percentages are somewhat deceptive since few voted at all in the election. Neither the Czech Republic nor Poland will have any national election on the issue.

Basing his research largely on public opinion polls, Dr. Dorff found the following in 1997:

Country	Favorable	Unfavorable	Don't' Know
<i>Czech Republic</i>	60%	32%	8%
<i>Hungary</i>	55%	34%	11%
<i>Poland</i>	83%	9%	8%

Only in Poland was there convincing support, and the 83 percent figure actually combines two figures, "somewhat favorable" with "strongly support," so support is even more tempered than it appears. In Hungary, one-third of the population opposes joining NATO, and, while 55 percent approve, there are twice as many in the "somewhat" category as in the "strongly support" category.

While these surveys are concerning because they could foreshadow opinion instability, the picture is more alarming when the question makes support contingent upon new members "doing something." For example, when the public was asked whether they would support joining NATO if they were required to send troops, support in the Czech Republic fell to 52 percent; in Hungary to 33 percent; and in Poland to 70 percent. If they had to participate in NATO exercises, support in the Czech Republic dropped to 47 percent, with 48 percent actually opposing joining; in Hungary, 60 percent opposed joining. Thus, with the exception of Poland, there is at best moderate support in these countries, provided they incur no obligations. In fact, when asked whether they favor joining NATO if defense budgets would need to increase, a full 80 percent of those polled in the Czech Republic opposed joining.

Dr. Dorff then turned to the "old European NATO members" (France, Great Britain and Germany). The populace in these nations show extremely strong support for NATO overall. However, their support for enlargement mirrors that of new members. In theory the public supports enlargement; however, when support is contingent upon coming to the aid of one of the former Warsaw Pact countries, support falls to only about 20 percent. The US exhibits very similar phenomena, according to Dr. Dorff's research. Over 60 percent of the American public supports NATO expansion generally, but only a handful actually know who is being added. There has been little interest in the topic, even at the congressional level.

Based on these findings, Dr. Dorff concluded that NATO enlargement would not fail due to a lack of public support. In fact, the very lack of interest in the issue has given politicians significant room to maneuver. However, the details and the responsibilities associated with enlargement could prove problematic in the future. In the short term, no leaders want to push the debate. This is particularly true in the older European NATO countries and the new members where defense budgets are severely constrained. Thus, we are unlikely to see any public figures pushing the issue in the near-term. However, absent intense support, Dr. Dorff predicts that significant controversy will arise during the first call for a non-Article 5 action.

Alliance management requires at least some level of public support and understanding, which is lacking currently, according to Dr. Dorff. Policymakers will need to turn the symbolic enlargement into reality. He recommends launching an effort to shape public opinion before a future crisis.

"The New NATO," presented by Maj Mark Gose for Col Samuel Grier

Maj Mark Gose explained that Col Samuel Grier could not attend the conference, due to a prior commitment and thus asked Maj Mark Gose to present his paper for him. While Maj Gose

complimented the paper, he added that it was not necessarily reflective of his viewpoint, but rather, reflected that of Col Grier and co-researcher, Lt. Arnold.

The paper started with the premise that NATO expansion will move forward as planned. However, once complete, NATO will need to address important questions that ultimately will help confirm whether or not expansion was advantageous or not. Fundamental is the question of what is the threat that NATO is now defending against. Where is the threat emanating from? While some have suggested regional instability and the need for peace operations, no one has seriously asserted that NATO faces the prospect of major war. In light of this threat environment, the members will need to wrestle with whether or not NATO should move from a collective defense to a collective security organization. He also recommended that members strengthen NATO now, rather than waiting for a more serious threat to arise.

To explore this, Col Grier's paper asked the question "what is NATO for?" The military viewpoint is that it primarily provides for collective defense. Secondly, it provides a forum for a transatlantic link, a military vehicle for US and Canadian involvement in Europe. NATO "assumes" that the US should be involved in Europe, and that the European continent requires US involvement. It also makes the assumption that what happens in the Balkans serves US interests. From a political standpoint, NATO serves collective defense but has other purposes as well, including promoting European integration, maintaining a coherent relationship with Russia, creating stability in the Euro-Atlantic area and others. With enlargement, for example, NATO will provide a mechanism for new partners to take part in broader European institutions.

Another dimension of the issue is to assess what other issues are affecting NATO expansion. Primarily, will Russia follow the West's lead, or will there be a Russian resurgence? The paper's author, Col Grier, does not believe that NATO expansion will affect Russian relations in the short-term. The Russian armed forces is in shambles, but he believes it will eventually re-merge as a regional power.

Once the three new nations join NATO, another issue the alliance will need to grapple with is whether enlargement should continue, cease altogether, or should there be a strategic pause. What will happen to Croatia, Bosnia, Serbia, Bulgaria, Macedonia, Albania and the Ukraine? Col Grier believes that there will be a lengthy pause as the new members try to assimilate and older members decide who should logically be permitted entry next and what to do with Slovenia. Moreover, attention will likely be consumed by the Kosovo problem, which has less recognizable adversaries than in Bosnia, and by the question of what NATO should do about the province of Serbia. NATO will probably not allow a repeat of Bosnia, so if it is to intervene, it must do so quickly, backing up rhetoric with action.

In terms of NATO's new strategic concept, the alliance will continue to wrestle with the question of whether it should be a global actor or an organization to promote regional stability. Should it focus on Article 5 or move beyond that mandate? The US view leans towards making NATO more of a global actor, while the European view seems to want to restrict NATO to primarily regional conflicts. In deciding, certain problems will come to light. First, there is a distinctive military capabilities gap. While Europeans view it as less of a problem, US is very cognizant of the problems it will cause. The European Security Defense Identity (ESDI) is another issue. Should we allow Europe to work it into the security structure of Europe, and how strong a factor will it be? During the recent Albanian crisis, the WEU did not act. So far, the idea is simply that—an idea. But it could change and NATO needs to be prepared. Other major issues affecting the alliance include—the CJTF and German Reunification.

In summing up what the author sees as the future of NATO, in the short-term, he predicts that there is a regional role for NATO. The traditional NATO is ebbing for the following reasons:

- There is no common threat;
- The alliance is growing;
- There is a move away from collective defense;
- ESDI will likely become more important in the future; and,
- The technological gap is growing.

There is no turning back from enlargement. NATO will, and it should, enlarge. The new dynamic is that NATO operates in an evolving European security environment. Instability is the new enemy; much remains to be done, but NATO has, and will continue to have, a purpose.

"NATO: Potential Sources of Tension," Lt Col Joseph R. Wood

Lt Col Wood explained that his research sought to identify those tensions that could prevent NATO enlargement. NATO has a history of constant crises, but Lt Col Wood believes that 1998 has revealed a surprising lack of crises in the alliance. While there have been small tensions, NATO is experiencing a "breathing point," where it can deal with some of the more important and long-term issues that have plagued the alliance since the beginning. The first is geography, which affects the policy of each ally according to how that ally perceives its own interests and its proximity to potential security problems. The second of the three more enduring problems is the French "exception" and how to balance France's need for sovereignty and independence with alliance interests. And finally, a more enduring issue is actually a collection of issues that all stem from the question of what the real purpose of NATO is.

While these are important, they are not new. What is new, in Woods' view, are ten smaller, issues that NATO will need to grapple with in the short or near-term, as noted below:

1. *Enlargement.* The initial enlargement went relatively well, with little outcry opposing new members. However, Lt Col Woods predicts that most allies now favor a pause before deciding whether to enlarge further or not. He sees the potential for some tension to arise from the debate over the cost of inclusion versus exclusion of additional members.
2. *Strategic Concept Review.* Will and should NATO continue to emphasize Article 5 missions, or should there be more focus on out-of-area missions? While France has tended to favor Article 5 missions, it is assuming the lead in Kosovo. On the other hand, Germany is less flexible, desiring to emphasize Article 5 actions. Both the UK and the US have a more flexible viewpoint, thinking it necessary to deal with more frequent non-Article 5 missions.
3. *Cost.* Costs to support the alliance will continue to create tension, especially since there is no looming enemy and Western countries increasingly need to justify their defense budgets based on threats. These problems will be exacerbated by the costs of enlargement, such as bringing new members up to par militarily, and will also be evident in East-South conflict, where the East will likely get more assistance than the traditional recipients in the south of NATO.
4. *The European Security and Defense Identity (ESDI).* While the decision to utilize the Western European Union (WEU) as the conduit for developing an ESDI that corresponds with NATO goals is a positive, the process of implementing the idea could create some tensions in NATO. Lt Col Woods also expressed his belief that ESDI, if it comes about, will

probably do so more from small, little known practical initiatives, rather than from more top-down announcements of its creation.

5. *Counterproliferation and Terrorism.* The US has been advocating that NATO play a role in responding to these issues, defining them as alliance problems; European allies, on the other hand, are less convinced, believing the issues to be more bilateral.
6. *US Technological Gap.* Another potential source of tension is that US technology and capabilities are dramatically outpacing those of its allies. This is likely to be exacerbated even more in the future, as the US spends three times as much on research and development (R&D) as all European allies combined. This could not only create interoperability issues, but it could increasingly mean that the US's stand-off capabilities allow US troops to stay out of harm's way, leaving European allies to assume the riskier tasks.
7. *Command Issues.* While some of these problems have been resolved through Combined Joint Task Forces and other institutional structures, tensions could nevertheless arise in this area.
8. *Greece and Turkey.* The conflict between these countries continues to be a potential flashpoint in NATO.
9. *The Balkans.* Deciding how to respond to this conflict and preventing the spread of violence will continue to consume NATO attention.
10. *Anti-Personnel Land Mines.* The US position on this issue is different than that of its allies. Lt Col Wood anticipates that this will be a low-level source of tension in NATO in the coming year.

While these issues all need to be monitored, they are relatively minor stresses, compared to some of the tensions NATO has faced in the past. In fact, Lt Col Wood stressed, NATO is enjoying a rather extraordinarily low tension period. In the US, Congress approved the addition of three new members with little debate. In Europe, NATO is considered a "fact" of life, widely accepted. The Green Party in Germany was recently forced to mute or renounce former anti-NATO stances. In the UK, NATO is considered a cornerstone, and even in France, no leaders suggested that Kosovo should be handled outside the auspices of NATO. Lt Col Wood stressed that NATO has become a "given;" now we just need to make sure that small tensions do not grow larger, while we continue to address the more enduring issues embedded in the alliance.

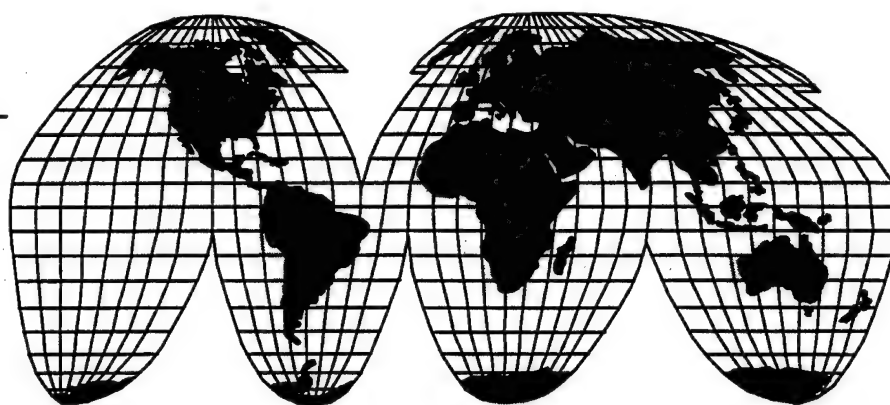
DISCUSSION:

Discussion covered all three panelists' presentations. One participant commented to all three presenters that continued enlargement and a robust ESDI seem like it would be advantageous to US interests since it would allow the US to participate only in those events it feels affect its security. ESDI could eliminate many of the US complaints over burden-sharing. Also he asked the participants to comment on whether the technology gap is making cooperation increasingly difficult. Germany, for example, is 10-15 years behind the US in capabilities and the gap is only widening. How does the US and NATO "get at the gap?"

Dr. Dorff responded first. He agreed that ESDI is a good idea, but said that even the Europeans do not agree on what ESDI is or should be. In the public poll research he has done on ESDI, there are many similarities to public opinion on NATO. At the elite level, there is support, but in the wider public, and at any deeper level, the support is more symbolic than deeply-held. If

asked to do things differently to support ESDI, the consensus tends to break down. Maj Gose answered that ESDI and US/NATO, in his mind, should be linked, especially in light of NATO's nuclear guarantees. While ESDI might promote burden-sharing, there are likely to be discrepancies over nuclear doctrine. For example, Germany is now supporting a no first-use policy, so new tensions will arise.

Finally, Lt Col Wood agreed with the participant that ESDI is a good idea. Just as the US supported stronger European integration, it can benefit from ESDI. However, Lt Col Wood believes that the US needs to move beyond supporting ESDI only at the rhetorical level. For example, when Europe took the lead in responding to Kosovo, the US refused to send helos that the mission required. The US should encourage European actions, through materiel support, such as weapons, when required. As for the technological gap, Lt Col Wood felt it imperative for the US to explore some low-cost options, such as the Link-16 and others which could "fix" some of the interoperability problems without huge expenditures. He criticized the lack of thought regarding this issue. Finally, Lt Col Wood commented on Dr. Dorff's presentation. While polling data is important, it has limitations; for example, President Clinton has exceptionally high ratings, but is awaiting impeachment proceedings. The lack of support for NATO expansion may point out a need for additional education on the process below the elite level if NATO is to execute a military mission with new members. However, there is a definite sense that NATO itself is largely a given in Europe and the US.



Panel 9.

Regional Security--Russia & Eastern Europe

COL Jeffrey D. McCausland, Chair

Col (S) David Fadok

Maj Marybeth P. Ulrich

Capt Stephen Lambert

1998 Research Conference

PANEL 9: REGIONAL SECURITY—RUSSIA AND EASTERN EUROPE

Chair: COL Jeffrey D. McCausland, US Army War College
Panelists: Col (S) David Fadok, JCS/J-5
Maj Marybeth Ulrich, Department of Political Science, USAFA
Capt Stephen Lambert, 34th Education Squadron, USAFA

PANEL PRESENTATIONS:

“Juggling the Bear: Assessing NATO Expansion in Light of Europe’s Past and Asia’s Future,” Col (S) David Fadok

Col (S) Fadok thanked INSS for its support and explained that his research resulted from both INSS support and a one year fellowship at Pennsylvania. Col Fadok stated his policy proposition up front: The US should begin to advocate membership for the Russian Federation in NATO. To clarify, he admitted that such an approach would be a departure from the current policy of not “naming names” regarding new members; secondly, he cautioned that the promise of membership should not be unconditional. In reaching this conclusion, Col Fadok made the following assumptions:

- NATO has a purpose in the post Cold War era as a collective defense “plus” entity. He chose not to question the continued need for NATO, but rather, to take it as a given;
- Strategic benefits of the entry of Russia into NATO outweigh the economic costs;
- The likelihood of Russian acceptance or alliance consensus does not influence the policy decision; and,
- *The National Security Strategy for a New Century* is the blueprint for American interests.

While some might contend that these assumptions undermine the whole exercise, Col Fadok argued that by making them, he could concentrate on the straightforward question of whether the Russian Federation’s entry into NATO was a good idea, in terms of US national strategy.

His findings show that if the US advocated Russia’s entry, three main benefits would result. First, it would help counter internal threats to the Russian democracy. For fledgling democracies to take hold, they need breathing space, both internally and externally. If Russian security were assured, the new regime could concentrate more on internal rather than external threats. This would not be a new role for NATO. It helped France, Spain and Italy make the transition from autocratic governments to more democratic rule. US advocacy of Russian entry into NATO could shape external forces by creating a benign physical security environment so that Russia could focus inward and by creating a benign psychological environment that bolsters Russian confidence.

A second benefit that arises from Russia joining NATO is the potential for an effective European security architecture. The US wants to create a peaceful Europe; the optimal means to ensure this is through an *inclusive* security framework. Russia and the US will need to cooperate if there is to be peace on the European continent. They can cooperate either separately or through integration into one alliance. Col Fadok believes the latter is the most effective way of ensuring cooperation. Moreover, Col Fadok stressed that current arrangements with Russia, codified in the NATO-Russia Founding Act of 1997, have the potential to reintroduce “spheres of influence” and balance of power politics on the continent. The Permanent Joint Council cannot resolve fundamental differences since its action requires consensus. Thus, separate action is not

effectively deterred. While Russia's entry could transform or change the alliance, the transformation would be evolutionary rather than revolutionary, in Col Fadok's view. Elements of collective security have always been apparent in NATO. NATO has always been more than an organization to provide collective defense against the USSR, he argued.

A final advantage Col Fadok explored was the potential for beneficial security outcomes in other areas, beyond Europe – namely, in East Asia. The only major competitor likely to challenge the US by 2020 is China. The Sino-Russia relationship has grown increasingly close, with China suggesting it could play the “Russia” card. NATO expansion could be used as a “wedge” issue by China to woo Russia. However, US policymakers would need to move cautiously or risk China becoming a “global spoiler” due to its isolation. Admitting Russia to NATO could strain US-Japanese relations due to Japan's dispute with Russia over the territory. On the other hand, it might also provide an opportunity to resolve those disputes. Finally, Russian entry into NATO risks exacerbating Russian recovery by alienating both China and Japan. Thus, the US would need to finesse these issues and move cautiously.

Col Fadok concluded by saying that US advocacy of Russia's entry into NATO could significantly further US national strategic objectives. It would also advance the functional transformation of NATO, albeit in an evolutionary, not revolutionary manner, along the lines hinted at by its early founders.

DISCUSSION:

One participant questioned Col Fadok on the timeframe for such a move. Most strategists believe that NATO should “pause” before admitting any further members; does Fadok's argument support or counter this belief? Col Fadok responded that, given the state of Russia today and the effects of any further disruption on both Russia and NATO, he does not see Russia joining NATO in the near term, or even in the next decade. However, he believes that the US could and should begin advocating for inclusion today. Indeed, some of the benefits of entry could be reaped today, such as preventing China from using expansion as a wedge issue with Russia. Another participant questioned Col Fadok on his assumption regarding costs, suggesting that the cost issue could even be a positive. US' advocacy of entry could be made contingent upon Russia cleaning up its economic act—an incentive for the regime to move forward. Col Fadok agreed that entry into NATO could offer both an incentive, and a means for Russia to divert money from building defenses to strengthening the economy. While the economic costs for the US and NATO would be high, Col Fadok believes that the benefits would be great.

“NATO's Identity at the Crossroads: Institutional Challenges Posed by NATO's Enlargement and Partnership for Peace Programs,” Maj Marybeth Ulrich

Maj Ulrich explained that her presentation looked at numerous institutional issues, serving to highlight questions, rather than to answer them. At the heart of her research are two programs: NATO enlargement and Partnership for Peace. Maj Ulrich argued that these two programs were developed largely in the Administration, outside of the political arena. They are intimately tied with each other, and must now evolve if they are to serve NATO's strategic objectives.

Maj Ulrich addressed this topic by providing a historical overview of the roots of these programs. NATO's first step to adapt to the post-Cold War environment was the 1991 Rome Summit which reiterated NATO's core mission balanced against broader threats such as proliferation. The first institutional outreach effort came with the creation of the NATO

Cooperative Council. In 1994, the Partnership for Peace (PfP) concept was launched at the Brussels Summit. It was intended to show NATO's commitment to enlargement while addressing its objective of exporting stability. The Bosnia operations were conducted in a PfP context, highlighting the contributions of the partners, while demonstrating the limits of the PfP as a process to facilitate such operations. These limitations, in fact, created the desire to "beef up" the PfP so it could serve its purpose. It also gave Russia an inside look at NATO, helping alleviate its fears.

At the Madrid Summit of July 1997, the first invites were issued. This led to three concerns: demand for greater political and operational consultation; the concern over the reaction of those who were not invited to join; and finally, concern over what membership offers would mean to those partners who did not aspire to enter NATO. The answer to these concerns, many felt, could be addressed through an enhanced PfP structure. The resulting enhanced PfP included both political enhancements, such as the Euro-Atlantic Partnership Council, intensified dialogues, and an expanded Planning and Review Process (PARP), and operational components, such as expanding the breadth of operations to all missions short of Article 5 operations and expanding the depth of participation in operations, including partnership staff elements. Overall, the enhanced PfP attempted to "balance" the interests of the "left behinds" with the interests of those who do not aspire to become members in NATO.

Institutionally, the balancing through the enhanced PfP has resulted in some positives. However, it has also created an evolving caste system of, what Maj Ulrich calls, the "haves," the "have nots," and the "have what we want." The "haves" group includes both members and invitees. The "have nots" are those aspiring to membership, such as the Baltics, Slovenia, Romania, and others. And, the "have what we want," include Switzerland, Sweden, and others who do not want membership but want NATO objectives expanded to include stability and other issues more pertinent to these states. Thus, they want PfP to participate on more of an equal level with NATO, in terms of decision-making, but still do not want to participate in Article 5 operations. As for the "have nots," invitations to Poland, Hungary, and the Czech Republic were both a source of hope and disappointment. While it gave the aspirants reason to believe they might one day be admitted, they were disappointed they were not issued invitations. There is a growing gap between the invited members and those who were not invited, as well as frustration that NATO will not provide more of a roadmap to membership.

As a result of the enhanced PfP, some are making the "Razor Thin" argument, suggesting that a vital PfP program could make the difference between member and non-member status inconsequential. Leaders will need to decide whether the PfP is slated to become a substitute for membership, and how these two organizations will function.

For now, NATO is at a crossroads with many issues to resolve, including whether it will have an open door. Maj Ulrich predicts that no further invitations will be issued at the Washington Summit, but she is not certain how long the pause will last. Another issue these institutions need to resolve is how to deal with the Baltics. The Baltics understand that their fate is tied to Russia's comfort level, and that they will not be admitted if it means a Russian backlash, but they retain hope. Finally, an issue that will be front and center as these institutions struggle toward an uncertain future is to ensure that new members meet their obligations. There is no process to evict members for not pulling their weight. Some are concerned that these countries will not have the political will to meet their obligations. Many feel that the alliance failed to exploit the leverage it had during the candidacy stage of membership and may come to regret this missed opportunity.

Maj Ulrich concluded that, up until now, NATO has struggled to maintain a consensus. However, it has not made the hard decisions it will need to make to push the PfP and NATO's enlargement forward. NATO will not be able to make everyone happy and meet everyone's needs. "Balancing" and "satisfying" will only lead to suboptimal outcomes. Maj Ulrich is hopeful that the New Strategic Concept review will make a decision on whether NATO will expand beyond collective defense to an organization to promote stability. But, getting the PfP out from under the shadow of enlargement may be the most significant aspect of NATO's future.

"NATO Enlargement and the Baltic States: In the Interest of European Security," Capt Stephen Lambert

The central question of Capt Lambert's research, undertaken in collaboration with Dr. Oleg Ivanov, is whether or not admitting the Baltic states to NATO would serve the interest of European security. To address the question, they examined the issue from a Russian perspective and an American perspective.

From a Russian perspective, threats to its security arise "from the attempts of other countries to counter the strengthening of Russia as one of the influential centers of the shaping multipolar world." In their perspective, the US is demonstrating unipolar (single-superpower) motives and aspirations; NATO is a vehicle for US influence and leadership in Europe; and NATO expansion is a tool for projecting US influence into Eastern Europe and former Soviet republics. Obviously, Capt Lambert added, these types of moves are highly threatening to Russia. While Russia hoped that NATO would collapse in response to the disintegration of the Warsaw Pact, NATO has, instead, become a flagship organization that holds promise to former Soviet Republics. The Baltics, for example, view membership in NATO as a means to integrate more closely with the West and to defend against threats from Russia, which they still view as the Soviet Union.

There are three options the Baltics could take: integrate with the West by joining NATO; adopt a neutral position (similar to that of Sweden/Finland); or become a satellite of Russia. Russia has offered the Baltics unilateral security guarantees if they take this course. The latter, of course, comes closest to filling Russian security objectives for this region, which include:

- Prevent any single state from dominating the Baltic area, both on sea and on land;
- Prevent the emergence of hostile political-military organizations and discourage existing ones from expanding;
- Prevent the militarization of the Baltic states and the establishment of any foreign military presence; and,
- Encourage the Baltic states to integrate with the European Union and other multi-national and European (non-U.S.) organizations (in order to bring wealth into the region).

The US takes a different view. According to Capt Lambert, and contrary to Col Fadok's view, NATO is not a collective security organization. It provides a substantial and credible military guarantee for the defense of its members, with the core of the guarantee being Article 5 of the Washington Treaty.

From the US point of view, it does not seem defensible that the Baltics could join NATO without causing serious concerns in Russia. First, could Article 5 credibility be preserved? Would the allies risk an all-out war with Russia, if they tried to re-claim the Baltics? Second, in light of the contiguous border with the Russian federation and Belarus, how comfortable would Russia be, if the alliance needed to deploy forces to the Baltics? The Baltics have always acted as

a buffer between the border with Russia and Belarus. In order to preserve a credible Article 5 guarantee the US/NATO would need to have increased forward basing of conventional assets or emphasize nuclear weapons, both of which would be viewed as antagonistic moves by Russia. Would NATO risk these moves?

Capt Lambert's view is that the US will be very reluctant to allow Russia to dictate the terms of NATO enlargement or negotiate "half-way" membership for new members. If new members are invited, they will want—and will receive—full membership, including burden sharing, which means full participation in any potential operations. Although the Russian Federation virtually acquiesced to NATO enlarging to include Poland, Hungary, and the Czech Republic, NATO officials recognize that they would probably not be so sanguine if NATO were to enlarge to include those states that were formerly part of the Soviet Union.

NATO, then, will probably not expand to include the Baltic states, since it would undermine the credibility of its Article 5 guarantees. Instead, Capt Lambert recommends enmeshing them in other Euro-Atlantic economic (and security) organizations, such as the Organization for Security and Cooperation in Europe (OSCE), the Western European Union (WEU), the Euro-Atlantic Partnership Council (EAPC), the Partnership for Peace (PfP), the Council of Europe (COE), and the Council of Baltic Sea States (CBSS). While they are currently members of the EAPC, the OSCE, and the COE, they are not as enmeshed as they might be, in the WEU for example. This would mean increased economic interdependence, leading to de facto deterrence. It would be costly for Russia to attack any of these countries and break ties to the West, particularly if it were dependent on flows of resources and capital through these countries.

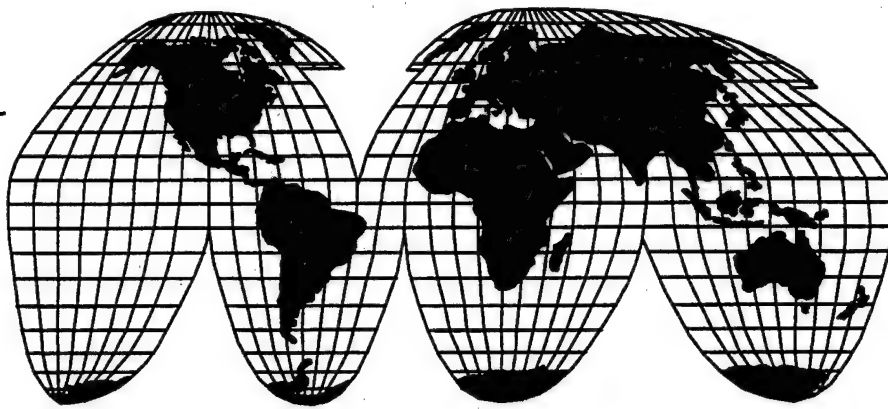
To admit them to NATO, in Capt Lambert's view, would de-legitimize the organization by undermining the Article 5 guarantee. Bluffing is not an option. The US and NATO need to back up its Article 5 guarantees with action, something that they cannot do in the Baltics.

DISCUSSION:

Following Capt Lambert's presentation, there was a brief question and answer session. One participant agreed with Capt Lambert's conclusions but questioned whether the Baltics could meet the economic criteria for joining the WEU. Capt Lambert responded that none of the countries currently qualify for membership. Estonia comes closest and is on the fast track, but it continues to have issues that are problematic for joining, such as agricultural disputes. Latvia and Lithuania are a long ways away from meeting the economic preconditions for membership. COL McCausland added that the point that some are close to being ready for membership is a good one. In his experience, the Baltics do not like to be grouped nor thought of as one entity. Capt Lambert agreed with respect to some issues, but not with regard to NATO enlargement. The Baltics believe they will all join or none will join, now that the border demarcation issue has been resolved.

Another participant asked why Capt Lambert was adamant that all new members ascribe to Article 5. In light of the new threat environment, why not transition NATO and allow some members to opt out of the Article 5 security issues? Capt Lambert answered that Article 5 guarantees are the bedrock of NATO and are what distinguishes it from all other coalitions. The nations train together, plan together, and take seriously the potential of an Article 5 action. Maj Ulrich disagreed, arguing that whether or not it will admit it, NATO has transformed into more than a collective defense entity, and possibly a collective security organization. Absent such a transformation, its relevance would have waned in the last ten years.

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Panel 10.
Space Policy

Col Jim Painter, Chair
Maj Steven M. Rothstein
Lt Col Guy M. Walsh
Col Frank Klotz

1998 Research Conference

PANEL 10: SPACE POLICY

Chair: Col Jim Painter, USSPACECOM/J5X

Panelists: Maj Steven M. Rothstein, School of Advanced Airpower Studies

Lt Col Guy M. Walsh, USCENTCOM/J-3

Col Frank Klotz, Defense Intelligence Agency

PANEL PRESENTATIONS:

"How the Current View of the Air and Space Environment Influences Development of Military Space Forces," Maj Steven M. Rothstein & Maj Scott Anderson

Maj Rothstein presented the paper written by both himself and Maj Scott Anderson. He explained that the purpose of the paper is to explore the notion that the military's general view of the air/space environment presents a fundamental dilemma that directly influences its ability to advocate, identify, and justify requirements.

Maj Rothstein explained that describing the current paradigm requires an understanding of how the military views the relationship between air and space. He stated that within the military, the view is to think of space as a medium separate and distinct from the atmosphere with physical characteristics unique enough that a barrier forms between the two. Maj Rothstein commented that the medium of air contains an atmosphere, and the medium of space is a vacuum. These two physical mediums are what separates space from air.

However, there are relationships that link space with air. According to Maj Rothstein, there are three specific connections between space and air that are worth noting:

- *Physical:* One cannot travel to and from space without travelling through air, and the separation of the two environments is not clear.
- *Theoretical:* Air and space, either together or separately, offer the "high ground" advantage in terms of theoretical power projection and power application capabilities.
- *Historical:* Space development is rooted in and sprang from the experiences and traditions of airpower development.

Thus, Maj Rothstein offered that the military's current view of the air and space environment seems to focus simultaneously on opposing relationships between the two mediums. He captured this in the following statement: "Space and the atmosphere represent two distinct medium environments physically different from each other; while at the same time, they are physically linked, and theoretically and historically tied."

Maj Rothstein re-emphasized that the current paradigm of the air and space environment presents a fundamental paradox. And, this paradox, in turn, has consequences in that how we perceive an environment directly influences how we choose to act within that environment. The result is that this dilemma affects how the USAF has organized and debated over military space force development. To evaluate the merit of their view, Maj Rothstein and Maj Anderson posed three questions:

- *Who should advocate and lead the development of a military space force?* This question addresses advocacy. It attempts to determine what organization should advocate and lead the development of a military space force.
- *Why is a military space force needed?* The answer to this question could potentially form the basis for space power theory.
- *What should the military do in space?* This question attempts to help formulate the functions and missions of a military space force.

Maj Rothstein explained that the “who,” “why,” and “what” questions strike at the heart of the issues surrounding space force development. They provide a basis for describing and evaluating how the current paradigm expresses itself within the military. And they provide answers with long- and short-term implications. According to Maj Rothstein, the space advocate uses the “why” and the “what” to help formulate and focus a long-term vision. In the short term, the space advocate relies on theory to justify and articulate functions and missions requirements. Thus, argued Maj Rothstein, the answers to the three questions form the foundation of a concept-pull environment.

Maj Rothstein and Maj Anderson found two advocates for the development of a military space force: the Air Force itself, and USSPACECOM. The Air Force is the lead advocate supporting the linking of air and space. The view is that space extends the “high ground” advantages of air. As a result, the Air Force does not assign functions to space forces specifically. Instead, Air Force doctrine lists the seventeen “air and space power functions” collectively.

USSPACECOM has a different view. According to Maj Rothstein, it advocates a position that supports the separation of space from air. This view of “separation” is supported by USSPACECOM’s use of information superiority throughout its vision statement to justify military space forces. Furthermore, several current Air Force functions indirectly work to separate air and space. For example, the functions of Counterspace, Counterair, Spacelift, and Airlift all support two separate mediums, as is clear by their names.

So what does all this mean? Maj Rothstein explained that the current paradigm both encourages and hampers military space force development. It encourages space force development because it promotes a strong environment for debate among competing advocates. In addition, its inherent paradox allows for flexibility to harness a strong “technology-push” environment. On the flip side, the current paradigm hampers space force development because it stifles the military’s ability to act. Also, the aforementioned paradox fosters internal institutional friction that inhibits the military’s ability to make progress on space development. Maj Rothstein noted that this bi-polarity results in an inability of DoD to forge a unified position with which to approach Congress for funds to develop space forces.

In conclusion, Maj Rothstein commented that while a healthy climate for debate within DoD is useful for the development of a space force, he believes that the positive aspects of the current paradigm have outlived their usefulness and its negative aspects are beginning to challenge the military’s ability to develop effectively a viable space force. As a result, he believes that the solution is to explore a new paradigm, one which provides the framework from which a healthy concept-pull environment can emerge.

"Full Spectrum Transition: Initiatives for Integrating Air and Space," Lt Col Guy M. Walsh

Lt Col Guy Walsh opened his presentation with the following quote:

"Space is an opportunity for us and our adversaries. . . . A lead we can not lose. . . . An asset we must protect." National Defense Panel Report, December 1997

Lt Col Walsh explained, as US military forces approach the 21st Century, they will rely increasingly on fewer, more mobile forces. These forces will be required to engage the enemy in deep battle operations that defeat it with a combination of parallel warfare, inside-out warfare, strategic and deep attack, and interdiction. In addition, Lt Col Walsh explained that although current US forces rely on space-based capabilities, this reliance will grow rapidly in the foreseeable future, particularly as more is demanded from US forces.

According to Lt Col Walsh, the US military is not the only entity relying more on space-based capabilities. In fact, commercial enterprises are relying on space-based capabilities as well, so much so that space has become a vital national concern for military and economic reasons. Furthermore, space is not just a vital national concern for the US, but for other nations as well. As a result, Lt Col Walsh predicted that the US will likely be challenged militarily as other nations recognize space as an attractive, low-cost (asymmetric) strategy against superior traditional air, ground, and sea forces.

In light of the current Air Force market—which is divided by culture, with a predominant culture made up of air warriors in air-centric organizations, and another culture composed of space warriors existing in space-centric organizations—what needs to be done to ensure that the US remains a leader in space? Lt Col Walsh offered that the Air Force must integrate these separate cultures into a seamless Aerospace Force. He referenced the following quote from *Global Engagement*:

"We are an Air Force transitioning to an Air and Space Force on an evolutionary path to a Space and Air Force."

Lt Col Walsh noted that two approaches toward integrating space and air operations exist. One approach, as adopted by the air-centric culture, promotes an evolutionary integration of space capabilities into current airpower strategy and operations. The other approach, adopted by the space-centric culture, is more dramatic. It is marked by near-term integration efforts of air and space capabilities that are overshadowed by the longer-term objectives of space control. Regardless of these divergent approaches, Lt Col Walsh argued that integrating air and space forces into an Aerospace Force is an efficient and effective way to enhance US national security.

Lt Col Walsh stated that the pervasive nature of space and the dehumanization of war via space-based systems, seamlessly integrated with highly skilled terrestrial air, land, and sea forces, will improve the certainty of most information in conflicts or peace. In addition, Lt Col Walsh noted that a commander's ability to act on real-time precise information about the position, direction, and speed of his forces as well as the forces of his enemies, will give him great advantage over his enemy and thus make the outcome of any engagement or conflict much more predictable.

In conclusion, Lt Col Walsh offered that the Air Force must focus on transitioning to an Aerospace Force by incorporating the myriad of space capabilities already in existence (military, commercial, etc.) into warfighting operations. This transition will entail a shift of current concepts into new ones, such as detection to characterization, reconnaissance to surveillance, and sensor-centric to information-centric. In the end, the transition will allow the US to solidify its leadership in military space use and help it reshape military strategy.

“Space, Commerce and National Security,” Col Frank Klotz

October 1997 marked the 40th anniversary of the launch of Sputnik, the Soviet satellite. This anniversary, according to Col Klotz, sparked his interest in the issues of space, commerce, and national security.

Col Klotz explained that space is becoming increasingly important to the United States, both militarily and commercially. For example, US forces relied heavily on space to support land, sea, and air operations during the 1991 Gulf War. Furthermore, Col Klotz stated that this reliance on space would only increase in future conflicts, where the vast majority of information required to direct combat forces will be supplied by space-based sensors and relayed to the battlefield through space-based communications systems.

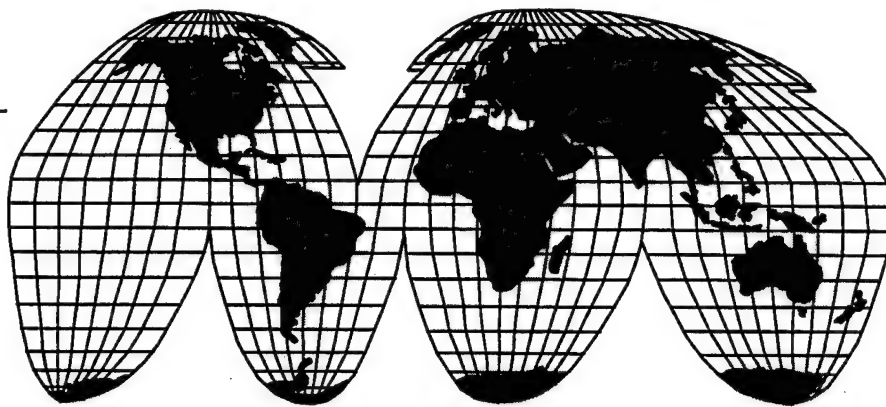
Commercially, reliance on space capabilities has increased as well. Col Klotz noted that Americans rely on space-based communications, navigation systems (GPS), and remote sensing capabilities. The information revolution, aided by space-based systems, has so transformed private activity and global commerce that, in Col Klotz’s opinion, two major concerns have emerged. First, Col Klotz explained that American space systems are potentially vulnerable to disruption in the event of a conflict. Second, future adversaries may try to improve their own force capabilities by developing space-based systems and taking advantage of commercially available space technologies. To counter this potential threat, Col Klotz suggested the US develop capabilities to protect US space systems and to deny the use of space to potential adversaries.

Col Klotz suggested another approach to this problem—develop arms control agreements specifically for space. These agreements could be used to protect American interests in space, as well as prevent space from becoming an arena of armed conflict.

Aside from the critical issue of protecting US space assets, Col Klotz offered another issue of significant importance to the US: the challenge from increasing competition for access to space. Col Klotz noted, although the US has dominated space in the past, other nations would likely become more involved. This increasing involvement and the resulting competition will probably have political and economic consequences. In addition, Col Klotz mentioned that several nations have already sought to shape the international rules governing access to and use of space to suit their own national security and commercial interests. Thus, Col Klotz concluded by stating that the most important task facing American space policy in the immediate future is to sustain the nation’s historical leadership in space.

PANEL DISCUSSION:

Due to time limitations, there was no panel discussion.



Awards Banquet

1998 Research Conference



DEPARTMENT OF THE AIR FORCE
USAF INSTITUTE FOR NATIONAL SECURITY STUDIES
USAF ACADEMY, COLORADO



19 November 1998

--BANQUET AGENDA--

THURSDAY, 19 NOVEMBER

1830	Buses depart hotel for the Cactus Rose Restaurant
1845-1930	No-host reception at the Cactus Rose Restaurant
1930	Dinner is served
2015-2020	Introduction: Dr. James M. Smith
2020-2100	Keynote Address: Gen James P. McCarthy
2100-2105	Presentations: Brig Gen David A. Wagie
2105-2115	The Major General Robert E. Linhard Award for Outstanding Research: presented by Col Thomas "Dutch" Miller
2115-2125	Outstanding Academy Researcher Award: presented by Brig Gen David A. Wagie
2125-2130	Closing Remarks: Dr. James M. Smith
2130	Buses return to hotel

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Brigadier General David A. Wagie is dean of the faculty, U.S. Air Force Academy, Colorado Springs, Colo. He commands the 865-member dean of the faculty mission element and oversees the annual design and instruction of more than 500 undergraduate courses for 4,000 cadets in 30 academic disciplines. He also directs the operation of 10 support staff agencies and faculty resources involving more than \$250 million.

The general entered the Air Force in 1968 as a member of the academy's 14th graduating class where he was honored as a distinguished graduate in 1972. He flew as a KC-135 aircraft commander and EC-135 research pilot. Later, at the academy, he served as an associate professor and deputy head of astronautics. He also held positions as deputy commandant, permanent professor for military instruction, and director of the Center for Character Development. While at the academy, he also served as a T-43 pilot. He currently flies as a T-41 instructor pilot.

Major General Robert E. Linhard was the director of plans, deputy chief of staff, plans and operations, Headquarters U.S. Air Force, Washington, D.C. He was responsible for the Headquarters Air Force position on unilateral and joint policy guidance, strategy and doctrine development and assessment, war and mobilization representative to the U.S. and Canada Permanent Joint Board on Defense and the U.S. national director for the Air Standardization Coordinating Committee.

General Linhard was a strong supporter of INSS and a true visionary in national security affairs. The Major General Robert E. Linhard Award for Outstanding Research for INSS is given annually to the author(s) of the most outstanding research done under the auspices of an INSS grant. General Linhard died on active duty, 3 August 1996. He is survived by the former Joanne Blayne of Bedford, Ohio and his daughter, Jennifer.

THE POLICY DIVISION OF THE USAF NUCLEAR AND COUNTERPROLIFERATION DIRECTORATE

&

THE USAF INSTITUTE FOR NATIONAL SECURITY STUDIES

6TH ANNUAL RESEARCH RESULTS CONFERENCE

USAF Academy, Colorado

19-20 November 1998

Banquet and Keynote Address

Program

No-Host Reception	Cactus Rose Restaurant
Banquet	
Welcome	Dr. James M. Smith
Keynote Address	General James P. McCarthy
Presentations	Brig Gen David A. Wagie and Col Thomas "Dutch" Miller
* INSS Outstanding Academy Researcher Award	
* The Major General Robert E. Linhard Award for Outstanding Research	
Closing Remarks	Dr. James M. Smith

General James P. McCarthy is the Olin Professor of National Security at the U.S. Air Force Academy. Since his retirement from the Air Force in 1992, he has been engaged in teaching advanced courses in public policy and decision-making and contemporary political issues in the Department of Political Science. He is also engaged in original research on information technology applications, the implications for public policy, and the role in combat operations.

During his 35-year military career, General McCarthy held a number of operational command positions, including a fighter squadron in Vietnam, two bomber wings, 8th Air Force and Deputy Commander in Chief, U.S. European Command, where he had day-to-day responsibility for all U.S. forces in Europe. While in Danang, Vietnam, he commanded the 4th Tactical Fighter Squadron and flew 152 combat missions. He served a number of assignments in the Pentagon, including the Director of Legislative Liaison with the U.S. Congress. During his military career, General McCarthy earned a reputation as an authority on strategic planning, resource allocation, advanced technology application, and major program definition.

General McCarthy served on the National Defense Panel created by Congress to assess the Quadrennial Review. The panel developed defense policy for the post-Cold War era and offered alternative approaches to Congress. He is also a member of the Air Force Scientific Advisory Board, a member of the Defense Policy Board advising the Secretary of Defense, co-chaired the Defense Science Board's task force on Information Architecture for the Battlefield, and was the vice-chairman of the DSB on Intelligence Support for Bosnia Operations. He serves on the boards of a number of businesses, professional, educational, and non-profit organizations.

BANQUET MENU

New York Strip
Steak and Chicken
Southwest Chicken
Fried Shrimp
Salad
Baked Potato or Rice
Dessert

Keynote Address
given by General James P. McCarthy
19 November, 1998

Gen McCarthy welcomed those at the head table, as well as all conference participants. He explained that his address, rather than providing answers, was intended to stimulate thinking around the idea of a vision for 2015. To address the issue, his keynote focused on some changing threat areas and potential capabilities to meet the threats. While the National Defense Panel (NDP) and other bodies have laid the foundation for such a vision, he believes that the US has yet to fully articulate one that can propel us into the next century.

A fundamental question, Gen McCarthy asked, is that in light of US's current and projected military superiority—which is far and above any other country's capabilities—who would challenge the US? Which nation-state would take on a power it knows it cannot match? The answer is that no nation-state will probably challenge the US directly, on a level playing field. However, it is likely that the US will be faced with asymmetric threats in the future.

Gen McCarthy explained that these threats shape US Services' requirements—even though the US has moved away from threat-based planning. Nevertheless, it is useful to think through the following question, according to Gen McCarthy: If you were the leader of a state that wanted to disrupt the US, what tactic would you use? Attacking us directly is suicidal. Thus, a leader might:

- Utilize weapons of mass destruction (WMD) to attack the infrastructure of the US;
- Deny the US the ability to deploy its forces; or,
- Attack national infrastructure through other means, such as information warfare, terrorism, drug cartels, or Mafia-type organizations

As a result of developing these potential scenarios, the NDP was able to focus on a few key areas that the US needs to address to meet the challenges of the next century, including information warfare, controversies or attacks in space, chemical and biological weapons (CBW), organized crime, and others. He elaborated on some of these areas.

WMD Attacks

To protect against WMD attacks targeted against US infrastructure, the Panel recommended that the US make organizational changes to ensure rapid and unified response to these types of incidents, despite differences in local capabilities. More specifically, Gen McCarthy explained, the Panel recommended that a force be constituted, using primarily Reserves (similar to the concept of a First Responders' team). Such a force would allow state governors to mobilize trained forces and react rapidly. The idea of a new command or new force to combat internal attacks on infrastructure has not been adopted in total, but progress is being made to address these types of threats.

Disrupting Infrastructure and Commerce via Space

Today, thousands of satellites provide the US with interconnectivity and a variety of economic advantages. However, the US military needs to protect these satellites. While reliance on space has expanded capabilities, the use of space will not always be peaceful; thus, the US needs an organization equipped to address threats in the space arena.

Information Technology

Gen McCarthy explained that in terms of maintaining information superiority, we still have far to go. As a country, the US is using information technology to an ever-increasing extent and we have become heavily reliant on it; however, we have yet to put in place strong mechanisms to protect information technology. In the near term, he noted, he thinks the threat against the US's information systems has been oversold, primarily, because commercial entities will develop mechanisms to protect it. Nevertheless, Gen McCarthy shares the view that the defense establishment needs to do more in terms of protecting against information warfare.

WMD

While WMD is tough to address, Gen McCarthy believes that if the US develops capabilities in the proper areas and sequences, the US has the potential to counter these weapons, in a manner similar to US strategy of nuclear deterrence. To succeed, he argued, the strategy will need to be comprehensive and integrated, including detection, identification, and destruction to ensure a full-threat chain against WMD.

Strategic Nuclear Forces

China and Russia continue to invest in strategic nuclear forces. These forces are critical to Russia's and China's capabilities, since they cannot match the US in conventional weapons. As long as others rely on them, Gen McCarthy does not believe that the US can move towards zero strategic nuclear weapons, nor will other countries agree to a path to disarmament. While the US had clear strategies for deterrence during the Cold War, we need to rethink how we use our nuclear forces to deter either multiple adversaries or adversaries different than Russia, e.g., China.

Projection of Military Forces

The idea that the US will have six months to build up its forces, as we had in the Gulf, is no longer even tenable, according to Gen McCarthy. An enemy will try to deny the US military access to a region anyway it can, most likely using CBW or other unconventional means. The US needs to develop capabilities to counter attempts to block access to a region.

With these areas in mind, Gen McCarthy pointed out that, in short, the US military needs to find new ways to fight. He then outlined some capabilities that could play a role in providing the US new strategies and tools to defeat asymmetric threats.

Precision munitions are deserving of more emphasis. Precision munitions can increase the effectiveness of forces and, as importantly, provide the US greater reach-back, permitting the Air Force to leave most of its troops in the rear, but maintain a robust connection to forward-deployed forces. This was demonstrated in EFX 98. With fewer forces forward-deployed, the military can significantly decrease its footprint.

Another idea that Gen McCarthy finds worth considering, but was not embraced completely by the Review Panel was the concept of "strategic control." Strategic control does not replace the "Halt Phase," but it goes beyond it. Once airpower, ground forces, and maritime forces halt aggression, instead of moving to an attrition force-on-force conflict to take territory, strategic control calls for taking maneuver forces and moving them to critical areas to "disrupt

capability" and destroy the opponent's faith in his strategy by changing the character of the conflict. The Air Staff is currently reviewing this concept.

Another idea to change the way the military fights, according to Gen McCarthy, is to move towards "effects-based warfare." The original targets in *Desert Storm* took 7-10 days to hit. But, with new technology, such as precision engagement, the US military can put more than 5,000 bombs in the air at one time, and shoot at the same target set in as little as 15 minutes. The enemy could lose 5,000 strategically important nodes at one time. The effect would be devastating. While all the technology to assist with effects-based warfare is not yet operable, there are significant technological advances that are changing US capabilities.

Gen McCarthy then addressed the role of INSS as a research institution in developing new ways for America to fight. He highlighted a few areas where research has a role—and a responsibility—to make strides. One area that requires further research, Gen McCarthy stressed, is information warfare. He does not believe that the US has yet exploited its intellectual capacity to deal with information warfare and thus, it should be a focus and a priority of research efforts. He also recommended that researchers look more closely at concepts such as "strategic control" and "effects-based warfare" to evaluate their potential to contribute to US defense.

Gen McCarthy summarized that INSS has already demonstrated itself as an organization that contributes significantly to the intellectual capital of the Air Force and the United States. However, he challenged INSS researchers not to shy away from controversial issues. Senior leadership, Gen McCarthy asserted, values those who will challenge the leadership in positive ways. The only way the USAF and US military can move from its traditional role, which is insufficient to deal with the threats ahead, is to be challenged and thereby changed. Gen McCarthy then paraphrased a quote by Mr. Theodore Roosevelt that suggested that it is the man who acts in new areas and challenges the conventional wisdom who—even if he fails—fails greatly.

**Institute for National Security Studies (INSS)
Research Results Conference
November 19-20, 1998**

On November 19-20, 1998, the Policy Division of the Nuclear and Counterproliferation Directorate (HQ USAF/XONP) and the USAF Institute for National Security Studies (INSS) hosted the sixth annual INSS Research Results Conference at the Air Force Academy in Colorado Springs, Colorado. The conference highlighted the significant accomplishments of a number of researchers sponsored by INSS during fiscal year 1998. Approximately 80 participants from private and government organizations attended the two-day event.

Welcoming remarks were given by Col Gunther A. Mueller, Vice Dean, US Air Force Academy (HQ USAFA/DFV), Col Thomas "Dutch" Miller, Chief of the Policy Division, Nuclear and Counterproliferation Directorate (HQ USAF/XONP), and Dr. James M. Smith, Director of INSS (HQ USAFA/DFES). After a full day of presentations, participants were welcomed at a banquet in Colorado Springs.

The banquet was highlighted by a keynote address from Gen (USAF, Ret) James P. McCarthy. General McCarthy is currently the Olin Professor of National Security at the US Air Force Academy. Since his retirement from the Air Force in 1992, he has been engaged in teaching advanced courses in public policy, decision-making, and contemporary political issues in the Department of Political Science. He is also engaged in original research on information technology applications, its implications for public policy, and its role in combat operations.

Following General McCarthy's remarks, Brig Gen David A. Wagie, Dean of the Faculty, US Air Force Academy, and Col Miller presented two awards: The Major General Robert E. Linhard Award for Outstanding Research for INSS and the Outstanding [USAF] Academy Researcher Award.

Major General Robert E. Linhard was the Director of Plans, Deputy Chief of Staff, Plans and Operations, Headquarters US Air Force, Washington, D.C. He was responsible for the Headquarters Air Force position on unilateral and joint policy guidance, strategy and doctrine development and assessment, war and mobilization representative to the US and Canada Permanent Joint Board on Defense and the US national director for the Air Standardization Coordinating Committee.

General Linhard was a strong supporter of INSS and a true visionary in national security affairs. The Major General Robert E. Linhard Award for Outstanding Research for INSS is given annually to the author(s) of the most outstanding research done under the auspices of an INSS grant. General Linhard died on active duty, August 3, 1996.

The Major General Robert E. Linhard Award for Outstanding Research was presented to Lt Col Gwendolyn M. Hall (HQ USAFA/DFPS), Maj John T. Cappello (HQ USAFA/DFPS), and Captain Stephen P. Lambert (HQ USAFA/34ES) for their INSS

Occasional Paper 20, entitled "A Post-Cold War Nuclear Strategy Model." The Linhard Award consists of a plaque for each recipient, as well as a claim to \$2,000 each in INSS research support for fiscal year 1999. Their names will also be inscribed on the Linhard Award plaque at HQ USAF at the Pentagon.

The Outstanding Academy Researcher Award was presented to Capt Paul J. Valley for his INSS Occasional Paper 22, titled "Environmental Security in the Czech Republic: Status and Concerns in the Post-Communist Era." Capt Valley currently serves in the Department of Biology at the US Air Force Academy. The Outstanding Academy Researcher Award consists of a plaque, as well as a claim to \$2,000 in INSS research support for fiscal year 1999. Capt Valley's name will also be inscribed on the INSS Award plaque in the lectinar area of Fairchild Hall.

Dr. James M. Smith, Director of INSS, said "We're [INSS] very pleased with the quality of this year's research papers, and we expect next year's papers will be just as insightful. And again, congratulations to the award winners. Their papers were truly excellent and will be of tremendous use for many readers."

For additional information on the conference or the INSS program, please contact Dr. James M. Smith, Director of INSS, or Maj Vincent J. Jodoin, Deputy Director of INSS at (719)-333-2717.

**Institute for National Security Studies (INSS)
Research Results Conference
1998 Awards**

WASHINGTON (AFPN) – *Post-Cold War Nuclear Strategy and Environmental Security in the Czech Republic* won top honors for their authors at the Institute for National Security Studies sixth annual INSS Research Results Conference held at the Air Force Academy, Colorado Springs, Colo.

The conference highlighted the significant accomplishments of researchers sponsored by INSS during fiscal year 1998. About 80 participants from private and government organizations attended.

Brig Gen David A. Wagie, Dean of the Faculty, and Col Thomas Miller, Chief of the Policy Division, Nuclear and Counterproliferation Directorate, presented the Maj Gen Robert E. Linhard Award for Outstanding Research for INSS and the Outstanding Air Force Academy Researcher Award. This year's winners are:

Linhard Award for Outstanding Research

INSS Occasional Paper 20, "A Post-Cold War Nuclear Strategy Model."

Lt Col Gwendolyn M. Hall, HQ, USAFA/DFPS

Maj John T. Cappello, HQ, USAFA/DFPS

Capt Stephen P. Lambert, HQ USAFA/34ES

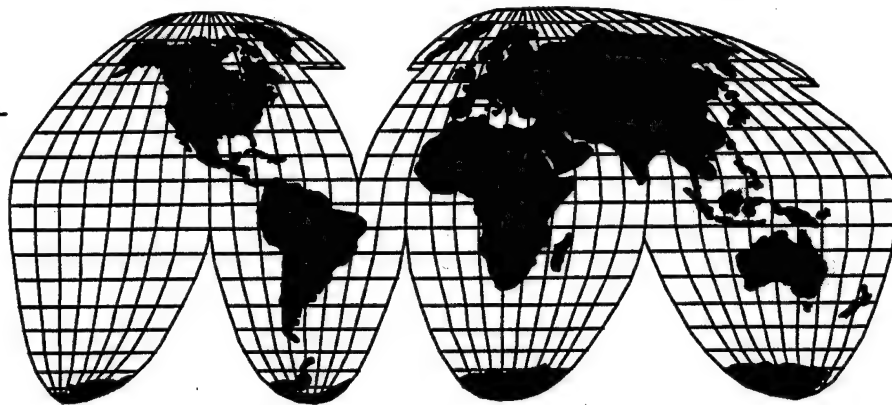
Outstanding Academy Researcher Award

INSS Occasional Paper 22, "Environmental Security in the Czech Republic: Status and Concerns in the Post-Communist Era."

Capt Paul J. Valley, HQ USAFA/Biology

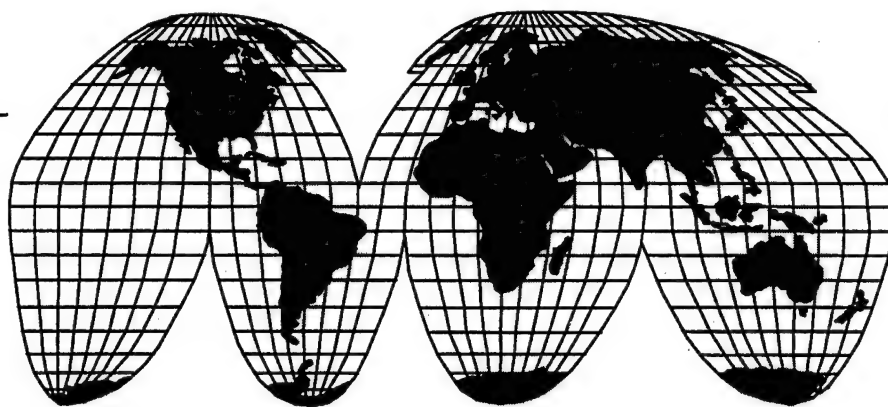
The Linhard Award and the Outstanding Academy Researcher Award include a plaque for each recipient and \$2,000 in INSS research support for fiscal year 1999. The winners' names of the Linhard Award will be inscribed on the Linhard Award plaque at the Pentagon. Capt Valley's name will be inscribed on the INSS award plaque at the Air Force Academy.

For more information on the conference or the INSS program, call Dr. James M. Smith, INSS Director or Maj. Vincent J. Jodoin, INSS deputy director, at (719)-333-2717.



Appendices

1998 Research Conference



Appendix A

Executive Summaries Research

1998 Research Conference

SIXTH ANNUAL RESEARCH RESULTS CONFERENCE

**United States Air Force
Institute for National Security Studies**



EXECUTIVE SUMMARIES

19 - 20 November 1998

Panel 1: Arms Control
Lt Col Alex Ivanchishin, AF/XONP, Chair

LTC Kevin D. Johnson, Joint Military Intelligence College

- "Fundamental Deterrence and START III"

Capt David R. King, Department of Management, USAFA

- "Interpreting Shadows: Arms Control and Defense Planning in a Rapidly Changing Multi-Polar World"

COL Jeffrey D. McCausland, US Army War College

- "Carts and Horses: Strategy and Arms Control for a New Europe"

Panel 2: Counterproliferation
Dr Jeff Larsen, SAIC, Chair

Lt Col Roy E. Horton, III, 91st Intelligence Squadron Commander

- "Out of (South) Africa: Pretoria's Nuclear Weapons Experience"

Dr M. Ehsan Ahrari, Armed Forces Staff College

- "Growing Strong: Nuclear Genie in South Asia"

Dr Sami Hajjar, US Army War College

- "Security Implications of the Proliferation of Weapons of Mass Destruction (WMD) in the Middle East"

Panel 3: Conflict in the Information Age
Maj Gregory Rattray, AF/XOIWD, Chair

Col Carla D. Bass, 694th Intelligence Group Commander

- "Building Castles on Sand: Ignoring the Rip Tide of Information Operations"

Lt Col Larry K. Grundhauser, 13th Intelligence Squadron Commander

- "Sentinels Rising: Commercial High-Resolution Satellite Imagery and Its Implications for US National Security"

Lt Col Richard W. Aldrich, University of Houston

- "How Do You Know You Are at War in the Information Warfare Age?"

Panel 4: Environmental Security
Mr Robert E. Jarrett, AEPI, Chair

Dr Katherine S. Carson, Department of Economics and Geography, USAFA
- "Discrete Choice Modeling of Environmental Security"

Capt William Casebeer, University of California,
- "The Middle East and the West: Environmental Security in Southwest Asia"

Dr Charles Krupnick, 34th Education Group, USAFA
- "Russian Submarines, Nuclear Waste, and a Model for International Cooperation"

Lt Col Harold Bidlack, Department of Political Science, USAFA
- "Interagency Cooperation on Environmental Security: The White House and Beyond"

Panel 5: Regional Security—Post-Cold War Transitions and Stability
Dr James M. Smith, Director INSS, Chair

C1C Thanh N. Dinh, Cadet Squadron 38, USAFA
- "Democratization of the Socialist Republic of Viet-Nam"

LTC Jeffrey Addicott, USSOUTHCOM
- "Promoting Human Rights in Cuba's Post-Castro Military"

Maj Matthew A. Long, Department of Political Science, USAFA
- "Emerging Arrangements in Southeast Asia"

Panel 6: USAF Issues
Lt Col Alan Van Tassel, OSD/S&TR, Chair

Maj Gregory A. Cate, 89th Contracting Squadron
- "Lessons Learned from Privatization at Newark AFB and the Effects of Privatization on AF Missions"

Capt William C. Thomas, Hq AFDC
- "The Next Peace Operation: USAF Issues and Perspectives"

Capt Sean Cantrell, 315th Training Squadron
- "Integrated Intelligence Operations: A Prerequisite to Force Protection"

Maj Kenneth Thompson, SAF/IW
- "F-16 Uninhabited Air Combat Vehicles"

Panel 7: Regional Security—Arms Transfers
Col Richard M. O'Connor, SAF/IAL, Chair

Col (S) James E. Moschgat, 612th Combat Plans Squadron
- "Co-production in the Middle East: Engagement or Entanglement?"

Lt Col Daniel L. Scott, NAOC Intelligence Branch
- "The Modernization of Latin American Armed Forces: Making Latin American Air Forces Fully Interoperable with the US Air Force"

Lt Col Antonio L. Palá, Department of Foreign Languages, USAFA, and
Dr Frank O. Mora, Rhodes College
- "Arms Transfers and Latin American Domestic Defense Production"

Panel 8: Regional Security—NATO Enlargement
Col Dave Anhalt, OSD/Net Assessment, Chair

Dr Robert Dorff, US Army War College
- "Public Opinion and NATO Enlargement"

Col Samuel Grier, Department of Computer Science, USAFA, presented by
Maj Mark Gose, Department of Political Science, USAFA
- "The New NATO"

Lt Col Joseph R. Wood, French Joint Defense College, Paris
- "NATO: Potential Sources of Tension"

Panel 9: Regional Security—Russia and Eastern Europe
COL Jeffrey D. McCausland, US Army War College, Chair

Col (S) David Fadok, JCS/J-5
- "Juggling the Bear: Assessing NATO Expansion in Light of Europe's Past and Asia's Future"

Maj Marybeth Ulrich, Department of Political Science, USAFA
- "NATO's Identity at the Crossroads: Institutional Challenges Posed by NATO's Enlargement and Partnership for Peace Programs"

Capt Stephen Lambert, 34th Education Squadron, USAFA
- "NATO Enlargement and the Baltic States: In the Interest of European Security"

Panel 10: Space Policy
Col Jim Painter, USSPACECOM/J5X, Chair

Maj Steven M. Rothstein, School of Advanced Airpower Studies

- "How the Current View of the Air and Space Environment Influences Development of Military Space Forces"

Lt Col Guy M. Walsh, USCENTCOM/J-3

- "Full Spectrum Transition: Initiatives for Integrating Air and Space"

Col Frank Klotz, Defense Intelligence Agency

- "Space, Commerce and National Security"

Panel 1: Arms Control
Lt Col Alex Ivanchishin, AF/XONP, Chair

LTC Kevin D. Johnson, Joint Military Intelligence College
- "Fundamental Deterrence and START III"

Capt David R. King, Department of Management, USAFA
- "Interpreting Shadows: Arms Control and Defense Planning in a Rapidly Changing Multi-Polar World"

COL Jeffrey D. McCausland, US Army War College
- "Carts and Horses: Strategy and Arms Control for a New Europe"

FUNDAMENTAL DETERRENCE AND START III

LTC Kevin Johnson
Joint Military Intelligence College

EXECUTIVE SUMMARY

The future of US and Russian strategic nuclear arms reductions is uncertain. Perceiving inequities in the START II Treaty signed in Moscow more than five years ago and angered by NATO's pending expansion, the Russian Duma has heretofore refused to ratify START II. Consequently, and as a hedge against a drastic change in Russian leadership and a subsequent return to antagonistic Russian foreign policy, the US maintains its triad of heavy bombers, intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs) at quantities approaching START I levels. Both sides retain the ability to cease compliance with START and quickly upload hundreds of additional weapons on delivery systems, ICBMs in particular. This strategic nuclear weapons reconstitution capability is protected under START II.

Despite indications of mistrust, the outline of a possible START III Treaty began to take shape during the March 1997 Helsinki Summit. Presidents Yeltsin and Clinton agreed in principle to a level of 2000-2500 strategic nuclear warheads, measures to improve the "transparency" of nuclear inventories, and, for the first time, destruction of the weapons themselves in order to ensure irreversible reductions in strategic arms.

START III negotiations are scheduled to begin upon START II's entry into force. The new negotiations would require both the US and Russia to determine how nuclear weapons contribute to, and perhaps detract from, their national security in vastly changed strategic circumstances. During the Cold War, tens of thousands of nuclear weapons underwrote virtually all US vital interests. Today, strategic nuclear forces play an important but nevertheless different and greatly diminished role, as recent changes to US nuclear strategy attest. In its December 1997 report, the National Defense Panel (NDP) asserted that effective deterrence can be maintained at START III levels and even lower. Implementation of START III reductions could conceivably open the door to multilateral nuclear reductions and limitation negotiations, including all declared nuclear powers.

The purpose of this paper is to chart a course for START III and beyond. Our analysis begins with the assumption that the US and Russia will negotiate a strategic arms reduction agreement based on the Helsinki framework, regardless of whether or not START II is implemented. We intend to describe not only where START III should lead the US and Russia, but how and why. We examine post-Cold War US national interests, explore threats to those interests, and consider some of the military, economic, and political aspects of present nuclear policy. We conclude that new geopolitical and military realities enable the US and Russia to adopt complementary strategies of "fundamental deterrence." This revolutionary strategy emphasizes defensive retaliation and smaller, survivable nuclear forces, in place of the dangerously competitive, offensive and destabilizing nuclear warfighting doctrines and huge nuclear arsenals that characterized the latter years of the Cold War. We recommend draft provisions for a START III treaty that are consistent with our strategy and the Helsinki accords, and for illustrative purposes offer START III-compliant force structure models for Russia and the US that possess characteristics which are supportive of a fundamental deterrence regime.

We contend that achieving fundamental deterrence and implementing the Helsinki principle of irreversibility are impossible if the US and Russia are determined to retain massive strategic nuclear weapons reconstitution capabilities. Given present US relations with Russia, and in view of the compelling need to prevent nuclear accidents and slow nuclear proliferation, we judge transparency and irreversibility to be more important than strategic nuclear reconstitution. Should relations with Russia take a turn for the worse and reverse this proposition, then the US should not negotiate START III.

We argue that it is no longer necessary to rely upon a nuclear triad to underwrite US vital interests. The triad's legs, products of Cold War technological constraints and arms control restrictions that were once complementary, are now increasingly and unnecessarily redundant. Under START III and beyond, the triad will consume more Department of Defense budget dollars, on a cost-per-warhead basis, due to an increasing share of operations, maintenance, and modernization costs. Fundamental deterrence does not inherently depend upon a triad. Nor are large numbers of nuclear weapons essential. Today, US nuclear forces serve to deter the use of weapons of mass destruction by sovereign states. They have very limited utility against other threats.

Recognizing the diminished, but still important role of nuclear weapons, encouraged to continue nuclear arms reductions to the point where other declared nuclear powers may participate in multilateral negotiations with the US and Russia, and mindful of the desirability of adopting mutual strategies of fundamental deterrence, we propose that START III:

- Be negotiated in conjunction with separate bilateral negotiations on non-strategic nuclear weapons
- Limit both sides to no more than 2000 deployed strategic nuclear warheads
- Prohibit the most vulnerable, destabilizing and dangerous weapons: defenseless, fixed ICBMs; mobile ICBMs, deployed with one warhead, would be permitted
- Require destruction of nuclear weapons associated with START-reduced delivery systems, verified by on-site inspection
- Require the establishment of transparency and bilateral controls over strategic nuclear weapons inventories, including deployed and nondeployed weapons

INTERPRETING SHADOWS: ARMS CONTROL AND DEFENSE PLANNING IN A RAPIDLY CHANGING MULTI-POLAR WORLD

Captain David R. King
Department of Management, USAFA

EXECUTIVE SUMMARY

This research summarizes the different foreign policy perspectives held in the United States and other nations, and American options for pursuing arms control. A literature review was the primary method of collecting required information. The paper illustrates that continuation of Cold War policies will not adequately address proliferation. Future arms control policies need to appreciate different worldviews in the United States and other nations. Potential elements of a future arms control paradigm include conventional deterrence, export controls, military assistance in the form of infrastructure projects, and an expanded view of confidence building. The new focus of arms control should be on influencing others and avoiding any single nation achieving dominance in a region.

"Carts and Horses" - Strategy and Arms Control for a New Europe

Colonel Jeffrey D. McCausland
Dean of Academics, US Army War College

Executive Summary

The United States and its European allies successfully used conventional arms control as a policy tool throughout the Cold War. The successful implementation of the Treaty on Conventional Armed Forces in Europe (CFE) and the confidence/security building measures (CSBM's) negotiated among the membership of OSCE are just two examples. With the completion of the Madrid summit the North Atlantic Treaty Organization embarks on not only its most significant membership expansion but also a further redefinition of its purpose. It is critical, however, to remember that NATO enlargement is not an objective of Western security. The true objective is to improve overall European security and establish a viable framework of stability for the future. In this context, "enlargement" is a "means" to achieve this greater "objective". While this may strike some as a question of semantics, it serves to place the NATO effort in the proper perspective. It also underscores the critical fact that this is an ongoing process that only began with the invitation to Hungary, the Czech Republic, and Poland to join the alliance. This process must be given careful consideration over the next two years to insure the ultimate objective is realized and not compromised along the way.

The United States and its NATO allies believe CFE adaptation can make a positive contribution to the consolidation of European security if it fulfills the following requirements:

- assuage to some degree Russian concerns about NATO enlargement;
- consider how adjustments will affect relations between NATO and new members;
- reflect security concerns of East and Central European states not admitted (this particularly applies to the Baltic states and Ukraine); and
- enhance Alliance cohesion while fostering public support for enlargement.

From the Russian perspective the CFE Treaty provides them legal assurances about the size and deployment of NATO forces that is critical to their assessment of regional security. Consequently, while adjustments to the CFE Treaty were warranted based on the dramatic changes that have occurred in Europe since its signing; the enlargement process gives this effort an additional resonance.

Ultimately the effort to determine a new strategic concept for NATO must answer the key question of what the Alliance is in fact for. Historically alliances have not been able to maintain unity absent an external threat despite shared values and interests. NATO enlargement and adaptation of the CFE Treaty may "solve" the strategic problem of northern and central Europe by bringing stability to the region between Germany and Russia. This new strategy will require careful consideration of the role that arms control plays in future strategy and should include careful consideration of how to synergize many of the agreements that now exist (i.e. Open Skies, Vienna Document, Wassenaar Accord, etc.) in addition to the CFE Treaty. This study examines the ongoing adjustment negotiations and offers an assessment on the prospects for success and how an adjusted treaty will affect US strategy in Europe.

Panel 2: Counterproliferation
Dr Jeff Larsen, SAIC, Chair

Lt Col Roy E. Horton, III, 91st Intelligence Squadron Commander
- "Out of (South) Africa: Pretoria's Nuclear Weapons Experience"

Dr M. Ehsan Ahrari, Armed Forces Staff College
- "Growing Strong: Nuclear Genie in South Asia"

Dr Sami Hajjar, US Army War College
- "Security Implications of the Proliferation of Weapons of Mass Destruction (WMD) in the Middle East"

OUT OF (SOUTH) AFRICA: PRETORIA'S NUCLEAR WEAPONS EXPERIENCE

Lt Col Roy Horton, III
Commander, 91st Intelligence Squadron

EXECUTIVE SUMMARY

The United States identifies the proliferation of weapons of mass destruction, particularly nuclear weapons, as the greatest potential threat to global security in the post-Cold War era. Despite a considerable emphasis in this area, only South Africa has voluntarily rolled back its nuclear weapons capability. Unfortunately, South Africa's actions apparently came in spite of US nonproliferation measures. "Nuclear rollback" occurs when a nation eliminates its nuclear weapons, relinquishes at least some of the technical means to acquire nuclear weapons, and/or accepts a regime to prevent it from going nuclear.

The primary focus of the paper is the impact of key South African leaders on the successful development and subsequent rollback of South Africa's nuclear weapons capability. It highlights the key milestones in the development of South Africa's nuclear weapon capability. It also relates how different groups within South Africa (scientists, politicians, military and technocrats) interacted to successfully produce South Africa's nuclear deterrent. It emphasizes the pivotal influence of the senior political leadership to pursue nuclear rollback given the disadvantages of its nuclear means to achieve vital national interests.

The conclusions drawn from this effort are the South African nuclear program was an extreme response to its own "identity crisis". Nuclear weapons became a means to achieving a long-term end of a closer affiliation with the West. A South Africa yearning to be identified as a Western nation—and receive guarantees of its security—rationalized the need for a nuclear deterrent. The deterrent was intended to draw in Western support to counter a feared "total onslaught" by Communist forces in the region. Two decades later, the same South Africa relinquished its nuclear deterrent—and reformed its domestic policies to secure improved economic and political integration with the West.

Several recommendations are offered for critical review of the above issues to include the need for greater international dialogue and constructive engagement with threshold nations such as India and Pakistan. Nonproliferation regimes can be used to promote mutual verification, transparency, and the resolution of mutual security concerns. More than anything, policymakers must be prepared to assist threshold nuclear states in resolving their core regional security concerns if they wish to encourage states to pursue nuclear rollback.

GROWING STRONG: NUCLEAR GENIE IN SOUTH ASIA

Dr. M. Ehsan Ahrari

Professor of National Security & Strategy
Joint & Combined Warfighting School

EXECUTIVE SUMMARY

India's five and Pakistan's five or six underground nuclear tests in May 1998 will be regarded by historians as an event that permanently altered the number of nuclear states and so-called 'threshold states.'

When all is said and done on the issue of India's entry into the nuclear club, the next logical question is where do Indo-US relations go from here? Obviously, India cannot (and will not) undo the fact it is a nuclear power. And the United States cannot impose economic sanctions and leave its ties with India frozen for the duration. India is too much important a country of South Asia and, indeed, of Asia Pacific for Washington to ignore.

The Indian Prime Minister, Vajpayee, has already made a public statement that India is willing to move toward signing the CTBT, and offered a 'no-first use' of nuclear weapons to the neighboring countries. Equally important, India was also reportedly ready to formalize its unilateral declaration to observe a moratorium on further nuclear tests. Now that India is a nuclear state, it is signaling that it is ready to play in the big league of nuclear powers. However, India's offer of no-first-use may not be accepted by Pakistan since by accepting it, the latter will lose the much-coveted but newly acquired strategic parity. The overwhelming superiority of India's conventional forces looms large in the strategic thinking of Pakistani ruling elites. The nightmarish dismantlement of its eastern wing is seared in the collective memory of Pakistan as a nation.

A realistic policy for Washington is to face the facts and deal with India as a nuclear power. A moratorium on further tests might turn out to be a good point of departure for Washington to initiate further negotiations. In all likelihood, such negotiations are likely to be bogged down by a continued Indian insistence on linking its signing of the NPT and CTBT with the Nuclear Weapon States' commitment to a timetable for complete nuclear disarmament. Secondly, India will also continue to seek entry in the nuclear club, and, along with it, its related perks. If India is allowed into the nuclear club, in all likelihood, Pakistan will also have to be given membership. Thus, India's nuclear option will continue to be beneficial to Pakistan.

There are tremendous potentials for US-Indian strategic partnership in Asia Pacific in the coming years. The United States played the 'China card' in the 1970s against the FSU. During the same time, the rulers in Beijing also played the 'US card.' Needless to say that in the 1970s, both Washington and Beijing quite successfully used their mutual ties to undercut the strategic advantages of the communist rulers in the Kremlin. In the 1990s and beyond, the United States should seriously consider playing the 'India card' in East Asia when such a measure suits its interests. Obviously, the Indians have their own interests of high politics in such a relationship, and they have been quite proactive in looking for strategic openings, especially in Southeast Asia. Thus, India is likely to be a good potential US partner. Even though its navy has not been able to emerge as a blue water force, such a potential is very much present, given the naval history of that country. Besides the Indian Navy has built impressive joint services facilities in Port Blair in the Andaman and Nicobar Islands, known as Fortress Andaman and Nicobar (FORTAN). This facility has been operational since 1985. New Delhi can be persuaded to play an active role around the Strait of Mallaca, which is a very important choke point of Southeast Asia. It is quite possible that the United States, Japan, and India may find a strategic understanding in East Asia, whose raison d'être could be promotion of the interests of South and East Asian countries. More important, such a partnership does not necessarily have to be against the PRC.

SECURITY IMPLICATIONS OF THE PROLIFERATION OF WEAPONS OF MASS DESTRUCTION (WMD) IN THE MIDDLE EAST

Dr Sami Hajjar
US Army War College

EXECUTIVE SUMMARY

The paper focuses on the proliferation of chemical, biological, and nuclear weapons in the Middle East. The weapons and their means of delivery are referred to collectively as weapons of mass destruction (WMD). The study argues that the Arab-Israeli conflict and the lack of progress in the peace process are strong incentives for nations in the region to acquire WMD. Iran-Iraq rivalry is another incentive affecting nations in the Gulf region. The analysis assumes the theme of inter-connectivity of proliferation issues across regional divides. Therefore, for example, a successfully concluded peace process may not necessarily reverse the proliferation trend as Israel might continue to be concerned about Iran's WMD capability. The inter-connectivity theme complicates US efforts on behalf of nonproliferation in the region.

Relying on unclassified US government and other private open sources, the paper documents the Israeli, Iranian, and major Arab WMD programs. Besides outlining each nation's WMD capabilities, it makes references to historical documented use of WMD in the region, the reasons as to why the major regional powers seek WMD capabilities, and it examines the nature of the proliferation dynamic in the region.

Based on interviews that the authors conducted with Middle Eastern officials and scholars, the paper offers a regional view on the problem of proliferation. These revealed that the quest to achieve a balance of power, the lack of trust between Arabs and Israelis, and the perception that the United States in its regional role is not evenhanded in its treatment of local actors, are responsible for the vertical and horizontal proliferation trends that are making the region highly dangerous and volatile.

Given US vital interests in the Middle East, stemming the proliferation trend is an important policy goal. The nonproliferation and the counter-proliferation approaches are examined as they apply to the region. The author makes several recommendations designed to strengthen the anti-proliferation efforts and to deal more effectively with the causes of proliferation. These include a more focused examination of the capability (deployment), motivation (doctrine), and use (employment) components of the WMD threat, the abandonment of declared statements guaranteeing Israel's military superiority, and a change in the language designating certain states in the region as "rogue" or "outlaw". Also recommended is the creation of a US Central Command Middle East Center to focus on instruction and research in the area of security and defense issues similar to the Marshall Center in Europe or the Asia-Pacific Center in Hawaii. Such changes could create a more positive environment in which the nations of the region might be motivated to devise security regimes that could tackle the issue of proliferation.

Panel 3: Conflict in the Information Age
Maj Gregory Rattray, AF/XOIWD, Chair

Col Carla D. Bass, 694th Intelligence Group Commander

- "Building Castles on Sand: Ignoring the Rip Tide of Information Operations"

Lt Col Larry K. Grundhauser, 13th Intelligence Squadron Commander

- "Sentinels Rising: Commercial High-Resolution Satellite Imagery and Its Implications for US National Security"

Lt Col Richard W. Aldrich, University of Houston

- "How Do You Know You Are at War in the Information Warfare Age?"

BUILDING CASTLES IN THE SAND? IGNORING THE RIP TIDE OF INFORMATION OPERATIONS

Col Carla D. Bass
Commander, 694th Intelligence Group

EXECUTIVE SUMMARY

Good news...US national-level policy and military doctrine, at Joint and Service levels, now recognize Information as a specific domain in which to conduct operations, paralleling that of air, land, and sea. They realize wars can be fought and lost in the information domain. Conducting information operations without effective opposition, defined as "Information Superiority", can be as crucial as air superiority to the outcome of war. Information Superiority now stands as one of six Joint operational concepts and as one of six Air Force core competencies. AFDD 1-1 states, "Dominating the information spectrum is as critical to conflict now as controlling air and space, or as occupying land was in the past, and is seen as an indispensable and synergistic component of air and space power." This concept expands the battle domain formerly recognized only as air, land, and sea.

Bad news...Policy, doctrine, and planning documents such as Joint Vision 2010 and USAF Global Engagement assume the US will have unimpeded access to information on our own forces and on the enemy as well, due largely to our technological sophistication. They propose application of a downsized US military in a still very deadly world, based on the premise of Information Superiority.

Information operations conducted by air and space forces enable the Joint Force Commander (JFC) to have dominant battlespace awareness in order to economically allocate forces for maximum effect.

However, the cautious reader might ask whether the US military has based its policy not on a firm foundation, but rather has built castles on sand. Indeed, the Defense Science Board cited this point most eloquently in its report delivered to the Secretary of Defense in November 1996.

[Services] can not simply postulate doctrine and tactics which rely so extensively on information systems protection and assurance. This attention, backed up with sufficient resources, is the only way the department can ensure adequate protection of our forces in the face of the inevitable information war.

A missing ingredient to our firm foundation is Information Assurance...the certain readiness, reliability, integrity, and continuity of our communication systems, intelligence systems, data bases, and supporting civilian infrastructure. All are necessary to successfully conduct military operations. The US will not achieve Information Superiority until we first secure our own information systems and convince adversaries that our systems are resilient. This involved calculated risk management: identifying, protecting, making robust, and reconstituting those processes most critical to national defense, similar to Continuity of Government operations undertaken during the Cold War. Furthermore, we must expand our own offensive capabilities by developing Information Warfare techniques and clearly convey to adversaries that extant capability and our willingness to apply it when necessary. This is the principle of deterrence applied to what is now known as Information Operations or the "fifth battlespace domain."

Organizations throughout DoD now focus effort, energy, and funding towards protecting military components of the information infrastructure. The USAF has been particularly active with initiatives such as creation of the Air Force Information Warfare Center (AFIWC) and recent establishment of the Information Warfare Battlelab. Another critical first step towards attaining Information Assurance is Air Intelligence Agency's (AIA) CYBERWATCH, which focuses on detecting,

identifying, and reacting to an electronic intruder. This field is new, capabilities are still evolving (both friendly and adversary), and numerous issues must yet be resolved. One large question looms, that of organization. Who is in charge? Which organization should orchestrate the many, diverse attempts to secure military information systems? Does the DoD need a Commander in Chief (CINC) for Information Operations? If so, whom?

This paper will attempt to prove that a CINC for IO is now necessary to capture the plethora of ongoing IO-related activities and hone them into a single, powerful, coordinated capability. Furthermore, using Special Operations Command (SOCOM) as a model, responsibility for IO should be assigned to an extant Unified Command. This additional mission should be accompanied by a designated program element to eliminate sporadic, uncoordinated, and oftentimes insufficient IO expenditures and to more efficiently distribute lessons-learned across the DoD.

**SENTINELS RISING:
COMMERCIAL HIGH-RESOLUTION SATELLITE IMAGERY
AND ITS IMPLICATIONS FOR US NATIONAL SECURITY**

Lt Col Larry K. Grundhauser
Commander, 13th Intelligence Squadron

EXECUTIVE SUMMARY

A fundamental shift in US policy occurred in March 1994 when President Clinton issued a directive that leveled the playing field for American firms eager to compete for the multi-billion dollar satellite imagery and value-added market. The centerpiece of this strategy—PDD-23—formally recognized that there was simply no easy way to get the “genie back into the bottle” with respect to the worldwide proliferation of sophisticated imaging satellite technology. Industry watchers predict that by mid-2001, over 30 satellites will be in orbit using technologies designed to provide imagery to an international clientele with a fidelity previously unobtainable by the general public. Customers will soon be able to choose from panchromatic imagery with sub-meter spatial resolution, as well as, high-resolution multispectral, and hyperspectral, and radar imagery, adding a new dimension to remote sensing for national security purposes.

One reason for the torturous debate over commercial satellites can be found in America's first-generation reconnaissance satellite, Corona. The Corona project is credited with lifting the veil of secrecy from the Soviet Union and debunking the myth of the “missile gap” despite the fact that its spatial resolution is considered mediocre by today's commercial standards. In fact, the latest-generation commercial systems are already capable of satisfying the majority of targeting-related military tasks. More significantly, however, they can provide imagery data in near-real-time to sophisticated workstations that can synthesize data from a variety of sensors. Thus, users are not limited to “snapshots” from space, but can benefit from the synergy of combining sensor phenomenology to yield images that are rich in both spatial and spectral information.

Despite the obvious military applications, the greatest impact these satellites will have upon US national security will likely occur in the context of peacetime diplomacy and arms control. Some advocates believe the transparency that these satellites can provide would do more to enhance peace and stability than provoke or facilitate conflicts, while others predict that traditional diplomacy will come under increasing pressure to address the “niche” issues of global watchdogs and other extra-governmental organizations. Undoubtedly, the mystique and diplomatic currency of US national technical means (NTM) of verification will fade over time as new players become more familiar with satellite imagery, but there is reason for optimism.

As countries learn to use satellite imagery for a wide range of civil and governmental purposes, they may also agree to its use to verify regional arms control and security accords. Alternatively, challenges to the authority of NTM for arms control verification will inevitable result as new players, empowered with imagery from commercial satellites, raise the “noise” level associated with compliance diplomacy. Countries bent on violating arms control accords may also utilize commercial imagery to help then gauge what American NTM can likely detect and devise more effective deception regimes. Thus, the incentive to cheat might increase if countries believe they can defeat the American rubric of effective verification.

Although there are a number of significant military and diplomatic challenges, the impact of this new breed of commercial imagery satellites is not entirely negative. Satellite imagery technology may actually turn the tables on the traditional “spin-off” model, where government investments foster subsequent commercial applications. Instead, competition will propel new advances in remote sensing technology as the market takes its cues from Adam Smith's “hidden hand.” Scores of US military applications for commercial imagery have already been identified and promise to improve the

ability of the US intelligence community to support decision-makers and warfighters. Moreover, the private sector will undoubtedly develop comprehensive solutions to problems that involve the "back-end" of the imagery process that have too often been ignored, yet can have a significant impact upon overall system performance.

Several issues remain unanswered with respect to the growing worldwide interest in satellite imagery systems, particularly US plans to manage the threat posed by them. For example, when "shutter control" is first used, it will likely face an uphill battle before the Supreme Court, especially if the new media is deprived of its imagery. Additionally, commercial imagery may eventually become a critical commodity to G-7 nations who may cry foul if the United States as the sole superpower, cuts off their data, which could resurrect international debates over the legitimacy and legal status of all satellites. Unexpected (and unwelcome) consequences may also result from the excessive use of shutter control as the principal means of addressing legitimate operational security and force protection concerns. It is possible that customers could be driven away from US firms into the waiting arms of foreign providers—a development that would seriously undermine the object and purpose of PDD-23.

The question of whether the "sky is falling" because of the worldwide availability of high-resolution satellite imagery is complex for a number of reasons. In the final analysis, however, changes to the geostrategic landscape of the multipolar world in the years ahead are more likely to have greater impact on US national security than any of the current or planned capabilities of this new generation of sentinels rising.

HOW DO YOU KNOW YOU ARE AT WAR IN THE INFORMATION WARFARE AGE?

Lt Col Richard W. Aldrich
University of Houston

EXECUTIVE SUMMARY

The sophistication and frequency of hacker attacks on the information infrastructure and key military and civilian Internet sites is increasing. Meanwhile, Exercises such as Eligible Receiver and Evident Surprise demonstrate how widely vulnerable the United States still is. This combination has set off warning alarms at key levels of both government and industry. This new form of warfare could potentially yield results comparable to weapons of mass destruction. Further, this new form of warfare will likely be fought in the largely unknown realm of cyberspace. Yet because of the nature of the weapons to be used and attacks to be mounted, it is still not clear we will even recognize when or if we are at war. This paper looks to the UN Charter to assess how such terms as "threat or use of force," "breach of peace" and "act of aggression" apply in the new age of information warfare. The author posits that despite the fact that the Charter's terms are rooted in a time predating computers, satellites, local area networks, and the Internet, the Charter was designed to be a living document and its terms are broad enough to encompass the new information attacks. Nevertheless, it will take the leadership of the United States and other technologically advanced countries to lend new breadth to the regime of force. The vulnerability of the United States and other key countries makes such effort highly advisable. The United States must also review closely its domestic law, which currently serves to hamper efforts to pursue and identify attackers. Lawmakers must become intimately familiar with the rapidly changing technology which renders information attacks increasingly elusive, yet far more threatening. It will require careful balancing of the expectations of privacy against the need for a national security exception to keep our nation's infrastructure secure.

Panel 4: Environmental Security
Mr Robert E. Jarrett, AEPI, Chair

Dr Katherine S. Carson, Department of Economics and Geography, USAFA
- "Discrete Choice Modeling of Environmental Security"

Capt William Casebeer, University of California
- "The Middle East and the West: Environmental Security in Southwest Asia"

Dr Charles Krupnick, 34th Education Group, USAFA
- "Russian Submarines, Nuclear Waste, and a Model for International Cooperation"

Lt Col Harold Bidlack, Department of Political Science, USAFA
- "Interagency Cooperation on Environmental Security: The White House and Beyond"

DISCRETE CHOICE MODELING OF ENVIRONMENTAL SECURITY

Dr. Katherine S. Carson

Department of Economics and Geography, USAFA

EXECUTIVE SUMMARY

The presence of overpopulation or unsustainable population growth may place pressure on the food and water supplies of countries in sensitive areas of the world. Severe air or water pollution may place additional pressure on these resources. These pressures may generate both internal and international conflict in these areas as nations struggle to provide for their citizens. Such conflicts may result in United States intervention, either unilaterally, or through the United Nations. Therefore, it is in the interests of the United States to identify potential areas of conflict in order to properly train and allocate forces. The purpose of this research is to forecast the probability of conflict in a nation as a function of its environmental conditions.

Probit, logit, and ordered probit models are employed to forecast the probability of conflict and the probability of a given level of conflict. Data from 95 countries is used to estimate the models. Probability forecasts are generated for these 95 nations. Out-of-sample forecasts are generated for an additional 22 nations. These probabilities are then used to rank nations from highest probability of conflict to lowest. The results indicate that the dependence of a nation's economy on agriculture, the rate of deforestation, and population density are important variables in forecasting the probability and level of conflict.

These results indicate that environmental variables do play a role in generating or exacerbating conflict. It is unclear that the United States military has a direct role in mitigating the environmental conditions that generate conflict. A more important role for the military is to aid in data gathering to generate better forecasts so that troops are adequately prepared when conflict arises.

THE MIDDLE EAST AND THE WEST: ENVIRONMENTAL SECURITY IN SOUTHWEST ASIA

Captain William D. Casebeer
University of California, San Diego

EXECUTIVE SUMMARY

Many recent "pure" politico-military analyses of events in Southwest Asia omit a very important factor influencing the stability of the region—the availability of potable water—despite the fact that "Southwest Asia" could easily serve in common vernacular as a synonym for "hyperarid." The governments and peoples of the region, however, are extremely sensitive to the demand for fresh water, and we can expect that any environmental issues surrounding the availability of water for agricultural, industrial and domestic use will impact security concerns in the region. In this paper, I briefly identify some of the most pressing environmental issues that Middle Eastern governments face, making the case that water-related concerns are by far the most prominent vis-à-vis security and stability. I examine three "hot spots" where water issues are obviously impacting security issues—first, the Nile River valley (including Egypt and Sudan); second, Turkey's Grand Anatolia Project (also encompassing Syria and Iraq); and finally, Israeli/Arab/Palestinian issues. Finally, I recapitulate the importance of water-related issues to regional security concerns and examine how these highlight our need to reformulate outdated notions of "security," including those that would allow analysts to omit water-related concerns in regions of the world that are in some cases quite literally dry as a bone.

Environmental security expert Thomas Naff summarizes his views about the importance of water thusly:

"In sum, the strategic reality of water is that under circumstances of scarcity, it becomes a highly symbolic, contagious, aggregated, intense, salient, complicated, zero-sum, power- and prestige-packed issue, highly prone to conflict and extremely difficult to resolve." (p. 26. Proceedings, Environmental Dimensions of Security)

The upshot of this situation is that, in the appropriate circumstances, water related environmental issues become not just environmental issues but national security issues. This is hardly a revelation—see, for example, Myers' 1993 treatise on the environmental basis of political stability. Nonetheless, as Schantz (1997) and others have urged, we need to explicitly recognize the relationship between environmental concerns and security concerns. In the case of water, we can deal with a water crisis only if we have the wherewithal to recognize the environmental dimension of the security issue. There are better forms of irrigation, negotiations that are explicitly environmental in character can take place, water use can be cut back, etc., but we never arrive at these answers if we don't properly formulate the problem. Thomas Homer-Dixon and others have developed models that explicitly incorporate environmental concerns into a national security model (see, for example, the Proceeding of the 1992 AAAS Annual Meeting Symposium or the Winnefeld study from RAND). All three of the case studies examined in this paper provide evidence for the need to recognize the explicitly environmental character of situations that have the potential to impact the security concerns of the United States. As Ornas and Krokfors note, "Global issues concerning environmental and natural resource sustainability have become so important that it no longer makes sense to discuss international economic, political and security relations without devoting a central place to them." (p. 9).

One hope we have of recognizing and recovering from a seemingly unrecoverable water crisis is to reformulated our conception of national security so that we can bring all of our resources to bear on lessening water-based tensions in the Middle East. If this paper advances that cause even fractionally, it will have served its purpose.

RUSSIAN SUBMARINES, SPENT NUCLEAR FUEL, AND INTERNATIONAL COOPERATION

Dr Charles Krupnick
34th Education Group, USAFA

EXECUTIVE SUMMARY

This paper addresses Russian nuclear submarine spent fuel and how the international community is addressing the problem. Perhaps 150 submarines of Russia's Northern and Pacific Fleets will be decommissioned by the early 21st century without firm plans and infrastructure in place to remove and adequately care for the nuclear fuel assemblies from their reactors. The fuel assemblies still installed in the decommissioned submarines are at least temporarily safe, but most of those already removed are retained in inadequate storage facilities and may pose a significant environmental hazard. The problem is particularly acute in Northwest Russia where the majority of the submarines have been based. With Russia in the midst of a difficult political and economic transition, lines of authority have become confused and little money is available for projects not perceived as absolutely essential.

Concern for the Arctic environment has prompted a number of international actors to become involved in the Russian submarine spent fuel problem. Nongovernmental organizations (NGOs) like Greenpeace and the Bellona Foundation were among the first to be engaged and succeeded in identifying the potential hazards to national authorities and to the public at large. They provided early expertise and helped to establish an international agenda for further action. In a second and on-going phase, national governments and intergovernmental organizations (IGOs) have worked directly with Russian ministries, committees, and industry to identify and fund preliminary projects. Agreement has led to joint ventures, like the Murmansk Trilateral Initiative, the Lepse project, and the AMEC program, and to a variety of multilateral mechanisms for further collaboration. These include the Arctic Council, the Barents Council, and the IAEA Contact Group on nuclear waste. IGO and regime activity has helped to improve communications, to build trust, to track commitments, and to establish the beginnings of standards for performance and expectation. A third and concluding phase may occur if Western international corporations, encouraged by a profit motive and in alliance with one another and with Russian enterprises, fully engage in the spent fuel problem and help to develop a comprehensive program to alleviate the hazards. Commercial involvement is beginning as a result of contacts made through national and regime activity and because of available international funding. The pattern observed is supportive of a collaboration model developed and published by Barbara Gray in 1989. Gray observed that international cooperation on both conflictual and consensual issues has often developed in three phases: a problem setting phase that identifies the issue of concern and its boundaries; a direction setting phase where key decision-makers become involved and formal processes are established; and an implementation phase where appropriate actors pursue and complete projects relevant to the task. I elaborate on Gray's model by identifying specific types of international actors that are most associated with each phase of collaboration: NGOs with problem setting; IGOs and national governments with direction setting; and, multinational corporations with implementation. The pattern observed within the Russian submarine spent fuel issue might be a useful example for other efforts at large-scale environmental collaboration with the former Soviet bloc and the rest of the developing world.

INTERAGENCY COOPERATION ON ENVIRONMENTAL SECURITY: THE WHITE HOUSE AND BEYOND

Lt Col Harold Bidlack
Department of Political Science, USAFA

EXECUTIVE SUMMARY

How can the federal government increase cooperation within those agencies dealing with environmental security issues? What should the role of various agencies and organizations be? In this paper, I shall examine the interagency process on environmental security, and explore those factors that enhance, as well as, those that detract from teamwork and cooperation. I shall rely on three main sources of data. First, I will conduct a brief examination of some of the scholarly literature on the subject. Next, I will also use interviews I conducted with several government officials dealing with environmental security concerns on a daily basis. Finally, I will draw on my own experience as a participant-observer while a member of the National Security Council staff at the White House for two summers. I will attempt to tease out those factors that seem to enhance cooperation, and note those that seem to detract from it. Finally, I will make both general and specific recommendations as to what policies to continue which to modify and which may be appropriate to discontinue.

I will explore these questions within the general framework of government's response (or lack thereof) to international forest fires. During 1997 and 1998 in particular, major forest fires burned at a variety of locations around the globe. The fires were significant global events due to a variety of factors, and the response of the international community was quite varied. During my second White House tour of duty, I focused a great deal of attention on these fires and the US response to them. The "proper" US response to global forest fires remains an open question, but the development of our policies illuminates both the strengths and the weaknesses of the interagency process. Many very insightful and very dedicated professionals from a number of federal agencies are fully committed to working as a team to minimize the damage caused by global blazes. Yet, often cooperation fails to materialize, even in times of such seeming crisis. This paper will attempt to at least partially answer the question, Why?

Panel 5: Regional Security—Post-Cold War Transitions and Stability
Dr James M. Smith, Director INSS, Chair

C1C Thanh N. Dinh, Cadet Squadron 38, USAFA

- "Democratization of the Socialist Republic of Viet-Nam"

LTC Jeffrey Addicott, USSOUTHCOM

- "Promoting Human Rights in Cuba's Post-Castro Military"

Maj Matthew A. Long, Department of Political Science, USAFA

- "Emerging Arrangements in Southeast Asia"

DEMOCRATIZATION OF THE SOCIALIST REPUBLIC OF VIET NAM

C1C THANH N. DINH
CS-38, US Air Force Academy

EXECUTIVE SUMMARY

Democratization theory states that capitalism brings economic development and engagement with the outside world which then create an open forum of ideas, develops a middle class with higher expectations of its government, and builds civil society. Examples of this exist throughout Asia. However, political liberalization and improved human rights come at a much slower pace, especially in Asia. The United States is one of the few nations in the world with the credibility to judge the progress of such reforms.

Beginning in 1986 and continuing to this day, the Socialist Republic of Viet-Nam (SRV) has undergone sweeping changes in agrarian reform, industrialization, and international trade and investment. These economic improvements have made tremendous socio-cultural contact with the international community, and the United States in particular, possible. Various avenues of these information exchanges have greatly increased American influence on Viet-Nam. However, the SRV still has to deal with official corruption, lack of institutionalization and rule of law, and bureaucratic inefficiency that is inherent to a communist system. Also, numerous social tensions been unleashed due to development. Though the SRV has increased standard of living and allowed many personal freedoms for its citizens, it still has a great length to go in improving civil and political liberties. The Communist Party of Viet-Nam maintains authoritarian rule.

Because of the US 'Engagement and Enlargement' national security policy, the United States has a *duty* to promote democracy in Viet-Nam. Policy makers, activists, corporations, and private organizations working towards this end fall into two general categories: increasing engagement or having quid pro quo relations with the SRV. Those who favor engagement have demonstrated the enormous developmental and societal changes in Viet-Nam that such strategy has produced. However, those who call for conditional relations remind the world that the SRV is still a corrupt, politically repressive state and a human rights abuser.

This paper has concluded that Viet-Nam has undergone far too many changes on all levels of society to return to the police state it was in the 1980s. Interaction with the United States has played a large part in this evolution. The United States must continue its engagement policy, but keep in mind that the its underlying objective in its relations with Viet-Nam, is democratization. Otherwise, cronyism will prevail, another bloody revolution against the repressive political elite may ensue, and the Vietnamese may once again find themselves engulfed in bloodshed.

PROMOTING HUMAN RIGHTS IN CUBA'S POST-CASTRO MILITARY

LTC Jeffrey Addicott
USSOUTHCOM

EXECUTIVE SUMMARY

Should a fledgling democracy emerge in post-Castro Cuba, a critical goal will be to restructure the former totalitarian military so that it operates in a manner befitting a democratic system in which the soldier can carry out his mission in accordance with internationally recognized human rights principles. If regional stability is to be enhanced in the post-Castro environment, US military judge advocates must develop a strategy to assist the nascent Cuban military to institutionalize a system of democratic principles of behavior and the rule of law. Drawing on recent efforts by US judge advocates to help institutionalize internationally recognized human rights principles in the Peruvian armed forces, this paper will argue that US military judge advocates are uniquely qualified to fulfill this need.

EMERGING SECURITY ARRANGEMENTS IN SOUTHEAST ASIA

Maj Matthew A Long

Dept of Political Science, US Air Force Academy

EXECUTIVE SUMMARY

This project seeks to identify, account for the support of, and assess the influence of emerging arrangements that encourage maintenance of security, stability, and economic prosperity in Southeast Asia. The project will focus upon two mechanisms for maintenance of Southeast Asian security: the "San Francisco" system of US bilateral security ties to regional states; and the multilateral cooperative forum called the Association of Southeast Asian Nations Regional Forum (ASEAN Regional Forum, or ARF). While the ASEAN Regional Forum serves a useful function as a political consultative body aimed toward preventative diplomacy and the construction of confidence building measures, Southeast Asian security will still hinge upon decisions made in Tokyo, Beijing, and Washington. Because of great power interests, ASEAN's non-confrontational diplomatic style, Southeast Asian balance of power interests, and an ARF decision-making structure that utilizes consensus, the "San Francisco" system of bilateral based security will continue to play a crucial role in the resolution of conflict in Southeast Asia.

This project consists of three parts. The first section seeks to ascertain Southeast Asia's security considerations. This section focuses upon the security perceptions held by ASEAN members and describes their responses to these perceptions. Emphasis is placed on the Asian economic crisis, the political succession issue in Malaysia and Indonesia, and their impact on regional stability. Part one also identifies the security interests and roles performed by the extra-regional great powers – China, Japan, and the United States.

The second section builds upon these regional security perceptions, interests and roles in an attempt to identify potential regional conflict scenarios, with a particular focus on the South China Seas dispute. These section then examines the security mechanisms designed to minimize such conflict scenarios (the ARF and the San Francisco system), while assessing the implications of these security mechanisms for American, Chinese, Japanese, and ASEAN security interests.

The last section seeks to build upon the assessment of the ARF and the San Francisco system to make specific policy recommendations for US national security policy in Southeast Asia. These recommendations will pay particular attention to the role of American air power in shaping the regional security environment.

Data collection centered on over a dozen interviews with scholars and policymakers specializing in Southeast Asian security. This paper also seeks to synthesize the archival material written about Southeast Asia's security environment and conflict resolution mechanisms.

Panel 6: USAF Issues
Lt Col Van Tassel, OSD/S&TR, Chair

Maj Gregory A. Cate, 89th Contracting Squadron

- "Lessons Learned from Privatization at Newark AFB and the Effects of Privatization on AF Missions"

Capt William C. Thomas, Hq AFDC

- "The Next Peace Operation: USAF Issues and Perspectives"

Capt Sean Cantrell, 315th Training Squadron

- "Integrated Intelligence Operations: A Prerequisite to Force Protection"

Maj Kenneth Thompson, SAF/IW

- "F-16 Uninhabited Air Combat Vehicles"

LESSONS LEARNED FROM PRIVATIZATION AT NEWARK AFB AND THE EFFECTS OF PRIVATIZATION ON AF MISSIONS

Major Gregory A. Cate
89th Contracting Squadron

EXECUTIVE SUMMARY

While it is clear that shrinking defense budgets demand streamlining, it is not clear whether this desire for efficiency will significantly affect combat readiness. Because of world events and legislation like Goldwater-Nichols, Air Force roles and missions continue to change and do so under great scrutiny. The effects privatization is having on Air Force missions is largely unknown. This is why it is necessary to examine lessons learned from current privatization efforts and evaluate the current impact on missions of the Air Force.

The author's intent in writing this paper is to reveal how privatization efforts at Newark Air Force Base (AFB), Ohio, have impacted the missions of the US Air Force. In completing his research, the author analyzed a variety of mission-related criteria to include: expenditure of maintenance funds, Missile Guidance Set (MGS) delivery rates, MGS survival rates and turn around times on repaired items. The reader is also exposed to the many lessons learned from the privatization of Newark AFB. Since Newark AFB is the only operational US Air Force depot to have undergone privatization to date, the focus of this paper will be on lessons learned from current activities underway at Newark AFB (now called Boeing Guidance and Meteorology Center or BGMC). The author also briefly gives the background on Kelly AFB and McClellan AFB to enlighten the reader as to what the current missions are of these two depots. The author applies lessons learned from Newark AFB to McClellan AFB and Kelly AFB to help the reader gain insight as to what potential pitfalls lie ahead for the next two privatization efforts to be undertaken by the Air Force.

This project was needed in order to fulfill an Institute of National Security Studies (INSS) requirement to study lessons learned from Air Force privatization efforts and evaluate the impact on current and future Air Force missions. The methodology used to complete this study involved one-on-one interviews, on-line research conducted at the Air University Library, Maxwell AFB, Alabama, and an on-site research trip to Newark AFB, Ohio to visit the Boeing facilities at the old (now inactive) Newark AFB. The methodology used best fulfills the requirement of research in the limited time available to complete this project. It is wholly appropriate for the type of research completed by the author.

The author's findings offer the reader mixed results on the impact to Air Force missions due to privatization. On one side of the question, the Air Force mission is being accomplished quicker and with equal or more reliability than under the old civilian (Newark AFB) depot system. Conversely, the cost of completing repairs has apparently increased (a disputed fact between contractor and government). When additional money is used, another mission suffers. Thus, while the author's findings point to insignificant mission impact on the operational side, there are inklings that it is costing more to complete the mission in the same manner that it was done before privatization took place.

THE NEXT PEACE OPERATION: USAF ISSUES AND PERSPECTIVES

Capt William C. Thomas
HQ AFDC

EXECUTIVE SUMMARY

The purpose of this study is to improve our understanding of the role of the Air Force in peace operations and their impact on combat readiness. Our research included a literature review, personal interviews, and direct observation to collect both historical and current data regarding the nature of peace operations and the effective use of aerospace power. A review of UN peace operations dating back to 1947 was conducted, concurrent with an examination of the organizational culture of the United Nations. The role of aerospace power in modern operations was explored, including an examination of both combat airpower and air mobility. Interviews were conducted with military personnel at UN headquarters and in ongoing operations, as well as with political analysts and academicians studying peacekeeping. Finally, visits were conducted to command centers and forward bases involved in the current operation in Bosnia.

As the concepts of peacekeeping and peace enforcement evolve, the culture of the UN has a great impact on the manner in which military force is used to support diplomatic and economic methods of conflict resolution. UN operations are shaped by the political, legal, cultural and bureaucratic natures of the organization. Given that many, if not all, peace operations will be conducted to some degree under the auspices of the UN, it is important to understand why the it operates as it does. The nature of the organization and the objectives of peace operations determine the extent of the military's ability to affect the final outcome.

As the Air Force continues to expand its doctrinal knowledge base, one question that is asked is, "do we need doctrine for peace operations?" Our study indicates that Air Force operational doctrine for peace operations is neither required nor appropriate. Peace operations, depending on the specific scenario, make use of a variety of Air Force functional capabilities, such as Counterland, Intelligence-Surveillance-Reconnaissance, Psychological Operations, and others. Trying to capture the application of these capabilities in doctrine for a mission area that ranges from unarmed observation to armed enforcement would likely result in a muddled doctrine of little use. Instead, Air Force members should be well-versed in applying the doctrine for required capabilities in the context of a peace operation. One of the most important capabilities the Air Force brings to peace operations is Air Mobility, which includes Airlift, Aerial Refueling, and Air Mobility Support. Doctrine for these areas should be developed using the lessons learned from peace operations, and commanders and planners must then be able to effectively apply this doctrine in their particular situation.

Given the long-term nature of these missions, and the fact that military power is not designed to be the decisive factor in conflict resolution, it is difficult to measure the effectiveness of the military in regard to ultimate mission success. Some guidance exists in joint doctrine and in models developed by peacekeeping researchers. However, since every operation will have its own characteristics, it is difficult to establish a common set of metrics. Commanders must study closely the causal effects of their actions and determine if the military is meeting the limited objectives it will have, while at the same time recognizing that the overall mission may fail despite the best efforts of the military.

Our examination of training and education for peace operations led us to conclude that there is little training required for Air Force forces that would be different from their regular training for combat. Combat, support, and mobility forces use essentially the same skills in peace operations that they would use in wartime. The primary difference lies with combat air forces and mission planners, who will operate under more restrictive rules of engagement in a peace operation. Where forces could be better prepared is in the military education system. Military members should, at appropriate points in their career, learn about the culture of the United Nations, the proper application of Air Force doctrine in peace operations, and the potential problems inherent in a multinational operation. Air Force

members currently engaged in peace operations agreed that they did not require any special training as part of their standard regimen, but also agreed that effective education, and pre-deployment training regarding the unique aspects of a contingency, were very useful.

We examined the effect of peace operations on Air Force combat readiness, and found that support forces actually seemed to benefit from their deployments. This is due to the fact that the experience gained in a real-world deployment often outweighs that gained in exercises or in-garrison duties. The Air Force should attempt to better track and use the experience gained in these deployments. Two areas of concern are aircrew members, who miss valuable training time, and the ability to redeploy to a larger conflict. These concerns must be addressed in planning for peace operations. The Air Force, at least as evidenced in the Bosnian conflict, has effective means to minimize the effects on readiness and morale, and appears to be doing better in that regard than the Army.

This study does not address the issue of whether the United States should participate in peace operations; that is a policy decision made by leaders outside the military. Instead, it proceeds on the assumption that the US will engage in these operations, and that the Air Force will be called upon to participate. Given that, it is important that we understand how best to prepare for, and conduct, the next peace operation.

INTEGRATED INTELLIGENCE OPERATIONS: A PREREQUISITE TO FORCE PROTECTION

Capt Sean J. Cantrell
315th Training Squadron

EXECUTIVE SUMMARY

Current all-source Force Protection Intelligence (FPI) support to USAF Security Forces is ad hoc and inadequate to counter the threat posed against deployed USAF capabilities. Driven by the tenets of Joint Vision (JV) 2010, the US Air Force will engage in future military operations in a joint manner. However, due to less need for immediate physical proximity to an adversary than ground combatants, the USAF will continue to deploy to predominantly USAF-manned forward bases. In doing so the USAF will largely not fall under the robust Force Protection (FP) umbrella of US ground components that it supports with Air and Space Supremacy, and will be responsible for its own ground defenses in current and future joint military operations. Additionally, FPI/FP will increase in importance in relation to the increased frequency of confrontation with non-traditional adversaries and military operations such as humanitarian aid and peacekeeping that the USAF will be engaged in during the 21st century. These missions will place Air Forces in situations where there are not clearly defined forward or rear areas. Consequently, FP operations, which were traditionally thought of as rear-area protection, will have to secure an increasingly ephemeral physical Battlespace. The Khobar Towers terrorist attack demonstrated that in order to have the best chance of limiting the loss of American lives, FP has to be driven by specific intelligence. Therefore, the USAF needs an organic system for providing timely and accurate intelligence in support of USAF Security Forces conducting FP.

The majority of the research forming this tractate is from first-person interviews, followed by document sources. The terrorist attacks that spurred the current spike of interest in FP and FPI were too recent to have generated definitive documentation on the topic. However, rather than being a setback to research, the timeliness of the topic resulted in a surprising number of senior members of the US Intelligence Community who agreed to be interviewed for the project. Included as research participants are: Congressman Bill McCollum of the House Permanent Select Committee on Intelligence; Former commander in chief of US Special Operations Command, Wayne Downing, Gen, USA (Ret); and Former Director of Military Intelligence James Clapper, Lt Gen, USAF (Ret).

The methodology of the paper is an analytic examination of FP in the context of accomplishment of national military goals, followed by analysis of current FPI efforts within the DoD and the US Department of State (DoS). The purpose is to see if one branch of the armed forces or DoS currently conducts FPI in a manner that can serve as a rubric for a future USAF FPI structure.

The tractate concludes that while there has been a sense of urgency at improving and standardizing USAF-wide FP physical security measures since the terrorist attacks in Saudi Arabia, there has not been a corresponding level of urgency or standardization regarding FPI. To properly support future FP operations with intelligence, the basic premise that FPI is an outflow of counterintelligence operations needs to be changed. Future USAF FPI sections will need to be highly agile in their organic capability to collect, analyze and implement tactical intelligence and for the sake of mission protection should be offensive rather than reactionary. To best address the issue of Force Protection Intelligence an integrated intelligence organization(s) is needed that combines combat intelligence, counterintelligence, special operations forces, security forces and aviators. This cross-section of Air Force personnel combines the experience and expertise needed to manage the collection of and conduct analysis on the information critical to prompting the establishment of agile worldwide USAF FP defenses, while matching the proposed defenses with the operational needs of a mission-oriented expeditionary Air Force.

F-16 UNINHABITED AIR COMBAT VEHICLE

Major Kenneth E. Thompson
ACSC Research Project 98-282

EXECUTIVE SUMMARY

The US Air Force is actively pursuing unmanned aerial vehicle (UAV) programs for surveillance and reconnaissance missions. However, the Air Force has not funded any substantial research into bomb or missile carrying "lethal" UAVs, also called uninhabited combat aerial vehicles (UCAVs), despite the recommendations of the USAF scientific board's *New World Vistas*, DARPA, and the *Air Force 2025* project. With budget constraints and a reluctance to transition to an unmanned combat force, new advanced technology UCAVs are decades from operational status.

In the meantime, the US needs to quickly field an interim UCAV program for political, economic and military reasons. An interim UCAV will provide another unmanned military option for US leadership that currently relies on cruise missiles to deal with conflicts where the loss of American lives is politically unacceptable. Economically, a reusable UCAV is more cost effective in the long run than a one shot million dollar plus cruise missile. Militarily, cruise missiles have ordnance and target limitations that are overcome by the variety of weapons employed by a UCAV and its "man in the loop" capability. An interim UCAV is needed now to provide US leadership with another unmanned military option.

By modifying the multi-role F-16 fighter into an unmanned aircraft, the USAF can quickly provide a cost-effective interim UCAV. Lockheed Martin has suggested the modification of "boneyard" non-flying F-16 A-models into UCAVs. An investigation of this idea yielded several limitations and concerns that led to the formulation of an alternative F-16 UCAV proposal.

Many of the limitations, concerns and costs associated with the Lockheed Martin F-16A proposal are eliminated or reduced by modifying currently flying block 40 and 50 F-16Cs in operational squadrons. With the addition of remote control equipment, a few squadron jets are converted into "dual role" aircraft. The selected dual role F-16Cs can continue to fly as normal "manned" aircraft or, if needed, as unmanned remotely piloted UCAVs. Converting a few block 40 LANTIRN laser targeting pod equipped and block 50 HARM targeting system equipped F-16Cs in operational squadrons to dual role UCAVs will quickly provide a cost effective and capable interim unmanned military option.

With low modification costs, no new infrastructure requirements, and no need for additional pilots or support personnel, the USAF should immediately start the development, testing and conversion of a few F-16Cs into dual role UCAVs. As an interim unmanned military option, the F-16C UCAV will provide valuable insights and lessons for future advanced technology UCAV development and operations. In addition, a successful interim F-16C UCAV program will help the psychological transition to unmanned combat aircraft operations for the "white scarf" Air Force.

Panel 7: Regional Security—Arms Transfers
Col Richard M. O'Connor, SAF/IAL, Chair

Col (S) James E. Moschgat, 612th Combat Plans Squadron
- "Co-production in the Middle East: Engagement or Entanglement?"

Lt Col Daniel L. Scott, NAOC Intelligence Branch
- "The Modernization of Latin American Armed Forces: Making Latin American Air Forces Fully Interoperable with the US Air Force"

Lt Col Antonio L. Palá, Department of Foreign Languages, USAFA, and
Dr Frank O. Mora, Rhodes College
- "Arms Transfers and Latin American Domestic Defense Production"

CO-PRODUCTION IN THE MIDDLE EAST: ENGAGEMENT OR ENTANGLEMENT?

Col (S) James E. Moschgat
612th Combat Plans Squadron

EXECUTIVE SUMMARY

Few Americans today know that major weapons systems like the F-16 fighter and M1A1 tank, long high technology staples of the US defense industry, are co-produced in Turkey and Egypt, respectively, by highly skilled indigenous artisans. These types of ventures are not unusual and could become more prevalent venues for dealing in the world's arms market and creating economic bonds with key allies. The United States is currently involved in countless co-production efforts around the globe, including high visibility partnerships to turn out F-16s with Samsung of Korea; F-2s, an F-16 derivative, with Mitsubishi Aircraft Industries of Japan; as well as F-16s with Turkey and M1A1 tanks with Egypt. This paper zeros in on the role co-production plays in US foreign policy formulation and implementation in the strategically important Middle East. It analyzes two co-production programs with key Middle East allies, specifically the joint US/Turkish F-16 fighter production and the US/Egyptian M1 tank venture, to draw conclusions about the viability of these types of initiatives and the foreign policy that drives them.

Turkey's F-16 program and Egypt's M1A1 tank effort provide great insight into the challenges and complexities of producing a modern front line weapons system. Both were among the largest and most expansive of any type for either nation, costing billions of dollars, involving thousands of people, and stretching over many years. In the end, not only do they provide a world class weapons system for their respective military forces, they import a degree of technology and innovation that would take years to develop if left to the normal course of economic events. Not surprisingly, each has pros and cons.

Based on an analysis of these two case studies this paper attempts to answer five essential questions: 1) has co-production served US interests in the Middle East; 2) are co-production enterprises truly engaging and enlarging in accordance with US national security strategy; 3) what are the potential ramifications of the US transitioning from a weapon systems provider to a senior or perhaps an equal partner in co-production enterprises; 4) what is the economic versus strategic viability of co-production ventures; and finally, 5) what relevant foreign policy lessons can we learn from the ongoing F-16 and M1 programs and are there implications for US co-production efforts elsewhere?

This study proposes five initiatives that could improve future co-production efforts with Middle East allies and others around the world. First, the US government should overtly encourage close corporate partnerships as part of any co-production effort, not just government-to-government contact. Doing so promotes a corporate buy-in so critical to success and also cements one more engagement bond. Second, the US must more aggressively mentor potential co-production partners. By doing so, the US could conceivably steer governments away from unwise co-production ventures or in directions that are more fiscally prudent. Third, the US government should evaluate any proposed co-production plan using proven business factors to determine its financial viability versus the other benefits to be gained. Generally, it is only after a venture runs into serious trouble that the GAO or some other oversight agency steps in and offers an analytical critique of the program's ills. By then it is too late; the momentum will most likely carry the initiative onward at the cost of millions of dollars. Fourth, there should be one central office within the US State Department to approve, oversee and, when possible, initiate all arms transfers and co-production efforts. Under the current system many agencies have some say-so in co-production deals, but there is no single office to coordinate policy and ensure consistency from case to case. This puts the US in a reactionary mode of waiting for foreign governments to request co-production rights. Fifth and finally, the US should develop and implement a regional approach to co-production endeavors that brings more than two

participants into the agreement for the mutual benefit of all. This was exactly the approach the US and NATO adopted with the F-16 program in the late 1979s and 1980s. It takes advantage of co-production's engaging nature to draw partners together for mutual defense cooperation, resulting in enlarging peaceful interaction and long term relationships. This not only makes US firms more competitive in the arms market; it allows us to groom lasting, multidimensional relationships in a region.

As co-production becomes more and more likely in the Middle East and other regions, the US could benefit by aggressively evaluating and implementing multinational cooperative arrangements with key allies. Doing so creates regional peace and security through a cooperation arrangement based on shared benefits, mutual support, and developed trust. This is co-production's greatest contribution to foreign policy and diplomacy. If planned and executed well, co-production is indeed a foreign policy instrument that produces engagement, not entanglement.

LIMITING COMBAT AIRCRAFT SALES TO LATIN AMERICA

Lt Col Daniel L. Scott
NAOC Intelligence Branch

EXECUTIVE SUMMARY

In 1997, Chile requested technical data for the Lockheed Martin F-16 and Boeing F/A-18 fighter aircraft--essentially asking the US to reverse a longstanding policy of not selling high technology arms to a Latin American country. This request generated a debate inside and outside the government over relaxing the arms sales restrictions for Latin America. The Clinton Administration decided to provide that data. As of November 1998, the Chilean government had not yet made a final determination to purchase a modern fighter, whether a US system or not.

The controversy surrounding high technology arms sales to Latin America involves questions of sovereignty, arms control, technology transfers, threat perceptions, civilian control of militaries, cost reductions, and US taxpayer support. Additionally, the high visibility and cost of modern fighter aircraft attract controversy that other weapons and equipment do not. Such high technology systems signify potent modernization symbols for the developing countries. On the surface, selling high technology aircraft to Latin American nations may seem appropriate. However, a deeper reading of the issue reveals not only that such sales may be inappropriate, but that they indeed are counterproductive to security objectives in the region.

This paper argues that the US should not sell high technology combat aircraft to Latin American nations. Such sales are not in the greater US interest. Nor do these sales satisfy the requirements of the Latin American nations themselves. If we first look closely at the requirements from the region itself, we can see fundamental flaws in the argument for purchasing high technology aircraft.

From the threat perspective, modern combat aircraft forces have the greatest utility in traditional defense missions (conventional conflict). However, for Latin America, the probability of conflict in these traditional areas is low. The true security concerns come from non-traditional threats mostly caused by poverty. Combat aircraft may have some role in counter-insurgency and counterdrug operations. However, in the battle against poverty, migration, humanitarian disasters, international crime, and terrorism, combat aircraft have almost no role. In fact, to the extent that they deprive funds from other programs that address the extensive poverty in the region, these aircraft are a liability.

A nation may also desire certain military capabilities, but generally the capabilities correlate to existing threats or foreign policy goals. In Latin America, modernizing combat air force provides a capability with no utility. The non-traditional threats (poverty, immigration, and crime) do not respond to such systems. An increased capability to support foreign policy objectives is questionable as well. Latin American nations desire to assume greater international responsibilities in peacekeeping or humanitarian operations. But the limited roles these nations play in such operations do not require combat air forces.

Modernization is also often seen as a lower cost alternative to retaining older systems. However, reducing costs assumes adopting business practices that are just not practical in a smaller country. Purchasing expensive combat aircraft is not likely to achieve substantial savings. The small air forces involved do not have the economy of scale needed to achieve the savings, and would probably not want to reduce their inventories down to only one or two squadrons of aircraft. Additionally, each nation also has a strategic imperative to avoid dependence on just one supplier, forcing it to retain more aircraft types than a business decision itself would warrant more cost efficient.

Consequently, the Latin American requirement to purchase modern combat aircraft is tenuous at best. Moreover, by looking closely at US interests in the region, it becomes apparent that selling high technology aircraft is counterproductive as well.

The US security interests in the region focus on preventing an arms race, stemming the drug trade, preventing illegal immigration, countering guerilla insurgencies, and combating terrorism. Additionally, the US promotes prosperity initiatives to eliminate widespread poverty in the region. It also favors aiding the fragile democracies, strengthening civilian control of the militaries, and retaining influence in the region. DoD and USAF interests include fostering engagement and interoperability with the Latin American militaries.

The US has worked diligently to approach security in Latin America from a regional perspective. It has emphasized confidence-building measures, transparency in arms sales, abandonment of missile and nuclear programs, and ultimately reducing the need for arms in the region. A single-country arms sale runs the risk of sparking a regional arms race without any significant advantage for security against the real threats. In other words, the sale corresponds to a high-risk/low return investment and is generally disadvantageous to US interests.

Commercial trade is far more important to the US than the global arms market. Poverty reduces commercial opportunities in the region. Therefore, programs that detract from overcoming poverty are not in America's interest either. Additionally, given the dominance of US aerospace industries in the arms market, the substantial 50% taxpayer subsidy of those sales, and the large number of jobs exported through offsets, further sales to Latin America do not strengthen our defense industrial base. It would be far more beneficial to us to financially support other sectors of American industry.

The US should be seriously concerned about the fragility of the democracies in Latin America. The promise of the early 90's has been replaced by the stark reality today of continued poverty and very limited government resources to address the poverty. Continued military autonomy in national security and budget decisions does not allow for full dialogue on national priorities. Commercial arms sales do not provide any useful political leverage either. The Latin American people are losing faith in the ability of their democracies to deliver prosperity and justice. US arms sales to the region would only exacerbate the problem.

Finally, while interoperability and engagement would probably be made easier by selling US systems, both concepts must be pursued whether the countries buy US systems or not. The USAF must engage and interoperate with Latin American air forces for its own security reasons. It cannot afford to depend on an aircraft sale to develop that relationship. We have overriding interests in cooperating with the militaries to combat the drug trade, terrorism, guerilla insurgencies and fostering arms control.

In summary, neither Latin American requirement imperatives nor US interests favor the sale of high tech combat aircraft to the region. The Air Force should generally not support sales of high technology aircraft and associated systems to Latin America. Granted, each case must be judged on its individual merits. There is a delicate balance between modern air force combat capabilities and the more pressing, non-military security concerns facing the nations. To help arrive at this balance, the Air Force should define specific criteria to assess whether to support a sale or not. Air Force support of a sale should follow only if the assessment clearly demonstrates a substantial benefit to both the gaining country and US interests for the region.

ARMS TRANSFERS AND LATIN AMERICAN DOMESTIC DEFENSE PRODUCTION

Dr. Frank O. Mora
Rhodes College

Lt Col Antonio L. Palá
US Air Force Academy

EXECUTIVE SUMMARY

The decision by the Clinton Administration in 1995 to modify the Conventional Arms Transfer Policy and permit the sales of advanced military technologies has sparked a heated debate within political, academic, industrial, and military circles. One of the most controversial aspects of this new policy deals with the sale of advanced fighters to Latin America. Since 1995 the Chilean Air Force has expressed the desire to modernize its fighter aircraft. In 1997 Chile requested technical specifications from the US Air Force for the F-18 and F-16 fighters, and similar data from France for the Mirage 2000 and Sweden for the JAS-39 Grippen. Later the same year, the Clinton administration agreed to provide the information and entered into negotiations for the possible sale of the aircraft. This decision is a challenge to the Foreign Military Sales Act of 1968 which has been used to limit Latin American access to advanced fighter technology. With the exception of the 1982 sale of F-16s to Venezuela, the US had limited Latin American air forces to lower technology fighters such as the F-5 and A-37. Unfortunately, the US embargo did not limit the entry of advanced fighters into the region. The French have sold several variants of the Mirage including the Mirage 2000 to Perú, the former Soviet Union sold the SU-22, the Israelis have sold the Kfir to numerous countries, and most recently Belarus sold a squadron of Mig-29 to the Peruvian Air Force.

The critics of expanding fighter sales to Latin America focus on some important areas. Primarily, they stress the possibility of a renewed arms race in Latin America and the negative socio-economic impact of expanded arms sales to these fragile democracies. Others emphasize the fact that these nations do not need advanced fighters for their security. Advocates of the sales stress the economic benefits to the US and to our defense industrial base. Additionally, they propose that these sales will yield security benefits and create closer ties with our regional allies. Furthermore, with the exception of Cuba, all countries in the region are democratic and should enjoy the sovereign privilege to determine what kind of force structure it should have to provide for its defense.

This study will argue that the US should sell, on a case by case basis, advanced fighter aircraft to selected countries. It should do so to promote interoperability and maintain a military to military dialog with the region. This idea mirrors the principles set forth in the 1995 Williamsburg Hemispheric Defense Ministerial Conference which stressed transparency, accountability and mutual cooperation. Our research will also document the declining influence of the US with regional armed forces, which have been a result of our decreasing International Military Education and Training (IMET) outlays to Latin America, and reduced presence in the theater. Over the last 10 years fewer numbers of Latin American fighter pilots have received training in the US, while a growing number are doing so in France and Israel. Fighter pilots continue to be a large portion of the leadership in the Latin American air forces and it is imperative for the US Air Force to maintain close ties with these officers. Furthermore, the unwillingness on the part of the US to sell fighters may hinder the possibility to sell other aircraft or technologies such as the T-6 (JPATS) trainer in the future. This would create an even wider chasm between the US and our regional allies, and have a negative effect on hemispheric relations.

The unilateral embargo on the part of the US is not accomplishing the desired results. Our European allies and other nations are more than willing to provide the aircraft to the Latin American air forces while US manufacturers stand on the sidelines. The US should engage and promote responsible sales in order to increase our participation in the region and promote inter-operability.

Panel 8: Regional Security—NATO Enlargement
Col Dave Anhalt, OSD/Net Assessment, Chair

Dr Robert Dorff, US Army War College

- "Public Opinion and NATO Enlargement"

Col Samuel Grier, Department of Computer Science, USAFA, presented by

Maj Mark Gose, Department of Political Science, USAFA

- "The New NATO"

Lt Col Joseph R. Wood, French Joint Defense College, Paris

- "NATO: Potential Sources of Tension"

PUBLIC OPINION AND NATO ENLARGEMENT

Dr Robert H. Dorff

Professor of National Security Policy and Strategy
US Army War College

EXECUTIVE SUMMARY

The process of NATO enlargement has followed a curious path. For what is clearly a decision of enormous magnitude with potential implications for global as well as regional security, the silence is deafening. In the United States and in Europe, little if any meaningful public debate has occurred on the many critical dimensions of the issue. Why such debates have not occurred is itself an interesting and important question. But it is not the central question addressed in this research. Rather, the focus is on the nature of public opinion (content, intensity, stability) on the issue of enlargement and the possible implications of that opinion for the future of the enlargement process and the alliance itself.

The research examined recent polling data in the three new member countries (Poland, Hungary, and the Czech Republic), some of the existing European members (Germany, France, and Great Britain) and the United States. Data were drawn from publicly available sources such as USIA surveys, the Eurobarometer, Pew Center polls, and other published poll results. Most of the data came from the time period 1997 to early-1998.

Overall support levels for NATO enlargement are reasonably high in all countries, but further analysis reveals that the support is also quite weak. That is because the opinions are not strongly formed or intensely held.

In all of the countries there is a widespread lack of interest in and awareness of enlargement and its requirements among the general public. While this will not prevent enlargement from occurring, it may portend real problems down the road for the future use of the alliance and for alliance cohesion.

It is precisely in the details of implementing enlargement that problems may arise. There appears to be little understanding of and tolerance for some of the likely costs (money and responsibilities) of enlargement. It is unlikely that political leaders in these countries will press for any greater understanding of these costs as part of the enlargement process, creating a situation in which such issues may have to be addressed only when a critical issue confronts the alliance.

The overlap between European Union enlargement and NATO enlargement may create some tension, especially in new NATO members, in meeting the requirements for both (budget demands and fiscal constraints). It is possible that we will see a new round of "burden-sharing" battles, possibly pitting new member countries against old.

Finally, it appears that the publics in all countries are ill prepared for the "new strategic concept" debate about the future uses of NATO, both in terms of traditional Article 5 responsibilities and the new "out-of-area" operations.

The overall conclusion is simply this: The lack of public understanding of and support for some of the concrete details of NATO enlargement means that much will have to be addressed during the implementation rather than the approval phase of the enlargement process. If issues are not addressed then, the danger exists that when the time for action arrives the will to act will simply not be there. The deferred debates may be all the more acrimonious and deleterious to the strategic interests of the member countries and to the alliance itself.

THE NEW NATO

Col Samuel Grier

Department of Computer Science, USAFA,

presented by

Maj Mark Gose

Department of Political Science, USAFA

EXECUTIVE SUMMARY

NATO expansion appears to be on track. As of May 1st, the date the United States approved enlargement, four other nations had approved the entry of Poland, the Czech Republic, and Hungary into the Alliance: Canada, Denmark, Norway and Germany. The raging debate in the United States Senate concerning enlargement raised numerous questions about NATO and even led to opposition from some unlikely quarters: to wit, Ben Cohen of Ben and Jerry ice cream fame. The questions raised in the debate focused primarily on the cost of bringing in new members, future expansion and Russia's reaction to enlargement. Especially notable was a lack of consensus on why NATO should not expand. Senator Daniel Moynihan (D-NY) raised the prospect of nuclear war. Senator John Warner (R-VA) asked, "Where is the instability?" Senator Jeff Bingaman (D-NM) called NATO expansion a 'distraction' from other more substantial issues such as proliferation, and Senator Paul Wellstone (D-MN) voiced concern about undermining democratic forces in Russia. George Kennan, intellectual architect of America's Cold War policy of containment and Paul Nitze, former Deputy Secretary of Defense, worried about making the Alliance a "dangerous absurdity" and "fat and feeble." One wonders how a 'fat and feeble Alliance' might raise the prospect of nuclear war – a curious contradiction that certainly undermined the case against expansion. The result was not surprising: Proponents of enlargement, who spoke in concert about "extending the zone of stability and helping to eliminate the gray area in Central and Eastern Europe," claimed an easy victory and reconfirmed America's commitment to the transatlantic link.

What is the threat NATO is defending against? What is the purpose of NATO now that expansion appears to be a foregone conclusion? What are the major issues facing the Alliance? These are the real questions that should be addressed now that the debate on enlargement has passed. Answering these questions successfully will confirm the rightness of the US Senate's decision to support enlargement or expose their decision as folly – whether the post-Cold War enlargement of NATO is irony or part of Europe's destiny.

NATO: POTENTIAL SOURCES OF TENSION

Lt Col Joseph R. Wood
French Joint Defense College, Paris

EXECUTIVE SUMMARY

NATO's history has been characterized as one of continuing crisis and division, overcome only by a combination of compelling need on one hand, and constant attention and statesmanship on the other. By contrast, 1998 marks a period of relative internal calm for the Alliance. From the US Senate's overwhelming approval of NATO enlargement to the fact that Germany's Green Party was forced to mute anti-NATO views even to be considered a potential government coalition partner, substantial concrete evidence suggests that NATO today is not in obvious crisis, is threatened neither by a powerful external threat nor by overarching internal strategic differences, and enjoys a degree of support that may indeed be higher than during the Cold War.

Nevertheless, there are potential sources of strain and tension within the Alliance. They do not immediately pose grave threats to Alliance cohesion, but they could grow into significant strains if not handled effectively. Moreover, several of the strains collectively have the potential to interact in ways that could introduce more serious tensions, especially with the imposition of other, unanticipated kinds of tension or crisis.

Several long-term tensions that existed during the Cold War continue affect NATO today. The first is geography, which affects the policy of each Ally according to how that Ally perceives its own interests and its proximity to potential security problems. The second is the French exception and France's interpretation of and value on its national independence. The third is a collection of issues that spring from the question of what are the real purposes of the Alliance: collective defense against an external enemy; protection of shared interests in Europe; shaping the European security environment; preventing renationalization of defense while furthering European integration? The last long-term tension involved differing perspectives on the Western relationship with Russia.

The short- and medium-term issues inducing stress in the Alliance today include:

- **Enlargement:** Most Allies favor a pause in enlargement after the Czech Republic, Hungary, and Poland join in 1999. But the Alliance will have to evaluate how long to pause, and what candidates are next if its "open door" policy is to be effective.
- **Strategic Concept Review:** As the Alliance reviews its Strategic Concept for the first time since 1991, it must decide to what degree to emphasize traditional, core Article 5 missions or to emphasize the flexibility some think necessary to deal with more frequent non-Article 5 missions.
- **Cost Issues:** A major problem for the Alliance is how to sustain support for defense resources absent a large and looming threat. This absence could allow domestic political forces in all Allied countries more room to assert themselves and use NATO as a tool for domestic purposes; a hypothetical example of how the Air Force transition to Air Expeditionary Forces could have an eventual, unintended impact on US European presence and on the larger Alliance illustrates the problem. There are also significant issues associated with the cost of enlargement that must be resolved.
- **The European Security and Defense Identify:** NATO has agreed on the importance of the ESDI and on using the Western European Union as the primary vehicle for realizing the ESDI in concrete terms. But, the actual process of doing so, and the larger problem of defining the role of the WEU, remains contentious.

- Counter-Proliferation and Terrorism: The US is eager to see NATO play a role in responding to these issues, while the European Allies are less convinced that the Alliance should be involved. This may be one of the more significant tensions in NATO in the years ahead, as it brings up questions on the fundamental goals of the Alliance and highlights differing transatlantic perspectives.
- US Technological Gap: A technology and doctrine gap is emerging between US forces and their European counterparts, and the gap is set to widen as the US spends about three times as much on research and development as all European Allies combined. The effects could be: a) a divide between the US, with a stand-off capability that keeps its forces out of harm's way, and the Europeans who are left with "dirtier", riskier tasks; and/or b) greater or even total European dependence on the US
- Adaptation Issues: Most problems involving NATO's new command structure, Combined Joint Task Forces, and other post-Cold War institutional adaptation reforms have been resolved, but the "end game" could still produce tensions.
- Greece and Turkey: These nations pose the most serious threat for intra-Alliance conflict, especially as the Greek part of Cyprus prepares to receive advanced surface-to-air missiles while Turkey has vowed to prevent their becoming operational.
- The Balkans: NATO faces very difficult choices over whether and how to respond to violence that could well spread and pull in other nations with ties in the region.
- Anti-Personnel Land Mines: While the US did not sign the Ottawa Treaty banning anti-personnel land mines, it is a hugely popular initiative among European publics. The US and the Allies will have to resolve how to implement the Treaty in the NATO context.

Of course, any number of unexpected changes could produce substantial new stresses for NATO: failure in Kosovo, or a general economic crisis which drives nations to turn inward and reduce cooperation across the board, or conflicting of a resurging major military threat, or events that seriously impair American ability to provide leadership, all could cause more serious tension. The combined longer-term trends of economic integration in Europe could as sub-national regions reassert themselves may leave defense as one of a smaller number of issues dealt with at the national level, with unpredictable consequences.

But for the moment, the primary task for NATO policy makers is to deal with the less dramatic, but important issues described above in such a way as to prevent their growing into more profound tensions. The Alliance is healthy, with revamped institutions and substantial public support. There is every reason to expect that NATO's 50th anniversary summit and celebration in Washington will be an opportunity to reflect on the success of the Alliance in the past, while preparing it to sustain that success in the future.

Panel 9: Regional Security—Russia and Eastern Europe
COL Jeffrey D. McCausland, US Army War College, Chair

Col (S) David Fadok, JCS/J-5

- "Juggling the Bear: Assessing NATO Expansion in Light of Europe's Past and Asia's Future"

Maj Marybeth Ulrich, Department of Political Science, USAFA

- "NATO's Identity at the Crossroads: Institutional Challenges Posed by NATO's Enlargement and Partnership for Peace Programs"

Capt Stephen Lambert, 34th Education Squadron, USAFA

- "NATO Enlargement and the Baltic States: In the Interest of European Security"

JUGGLING THE BEAR: ASSESSING NATO ENLARGEMENT IN LIGHT OF EUROPE'S PAST AND ASIA'S FUTURE

Col (S) David S. Fadok
Directorate of Plans & Programs, Joint Staff

EXECUTIVE SUMMARY

Most, if not all, contemporary debate on the policy of enlarging the North Atlantic Treaty Organization (NATO) focuses on its expansion into the Central and Eastern European security vacuum caused by the collapse of the Soviet Union and the attendant disintegration of the Warsaw Pact. Cost, benefit, and risk analyses for various policy options are currently bounded by considerations of European security in general and by concerns about US-Russian relations in particular.

Though limited, there has been some discussion about bringing Russia into the NATO fold within both US and European circles. However, this proposition has been dismissed by most as a political non-starter due primarily to its economic and/or strategic costs. Some assessments conclude the price tag for Russian membership in NATO is well above what either the US, its European allies, or Russia itself would be willing or able to pay. Other assessments conclude that Russia's inclusion would entail heavy strategic costs by either paralyzing NATO's political and military responsiveness or by transforming NATO into a scaled-down, redundant, and, therefore, unnecessary replica of the United Nations.

This research paper reopens the debate on Russian entry into NATO. Specifically, it addresses whether the United States should advocate NATO membership for the Russian Federation within the next decade as a means

- To counter internal threats to Russian democratization
- To construct an effective security architecture for post-Cold War Europe, and
- To address emerging challenges to Asia-Pacific security, most notably, China's rise as a regional 'peer competitor' and its burgeoning relationship with Russia.

Such advocacy would mark a clear departure from the current practice of not "naming names" of potential members, but would not entail an unconditional promise of accession. Rather, it would establish a clear link between the offer of membership and Russia's continued development in accordance with NATO's fundamental principles of democracy, individual liberty and the rule of law.

To answer the central research question satisfactorily, I first examine NATO's history to assess the efficacy of alliance making as a means to counter threats to a member's development as a stable, democratic, market-based state. Analysis of French, Italian, and Spanish entry into NATO reveals the alliance has been an effective shield against both external and internal threats to democratic reform.

Next, I consider US support for Russian NATO membership as a possible means to combat the three main internal threats to Russian democratization: 1) a steady expansion of organized crime; 2) a popular nationalist-authoritarian political elite; and 3) an increasingly discontented military. While these challenges are formidable, they are by no means insurmountable. But to keep them manageable, both national and international attention and action are needed within the next five to ten years, before either the criminal tentacles attain a permanent stranglehold on the Russian state or a reactionary authoritarian phoenix rises from the ashes to restore order to the ensuing chaos.

NATO membership is one possible means for Moscow to address those internal threats. History demonstrates that participation in this politico-military alliance has provided an 'air of security' in which fledgling democracies have taken flight. For a struggling Russian democracy, the very

advocacy of membership by the US, whether or not it leads to eventual accession, could provide a comparable 'air of security' in two respects. First, it would infuse the perceived threat of American expansionism embodied in current enlargement plans, and second, it would underscore Western confidence in and desire for full Russian participation in a peaceful, undivided and democratic Europe. Within this 'air of security', the reformist factions in government may be better able to consolidate their political power and thereby crystallize the economic, legislative, judicial, and defense reforms needed to arrest the cancerous spread of organized crime, ultranationalist rhetoric, and military disgruntlement.

I then extend my analysis beyond Russia's borders and assess American advocacy of Russian entry into NATO in light of published US National Security Strategy for Europe and Eurasia. I break down America's overarching game plan into its component parts of ends, ways, and means, and thereby demonstrate that US support for Russian accession is in full keeping with the avowed strategy. Furthermore, I contend that current accommodations with Russia, as codified in the NATO-Russia Founding Act of May 1997, have a greater likelihood of redividing Europe into distinct spheres of influence than outright Russian membership in the organization. If the US truly intends to go beyond the "old thinking" of balance-of-power politics and beyond the Cold War barriers it entrenched, then it needs to eschew formalized concerts with "the other Great Power" (such as the Founding Act) and, instead, lead European the construction of a genuine pan-continental security structure which includes Russia as a full member. For both historic and practical reasons, NATO is the most promising of all current institutional candidates as the foundation upon which to build an effective security architecture for twenty-first century Europe.

Finally, I assess the potential impact of advocating Russian NATO membership on US security concerns outside the European continent, or more specifically, on American interests within the Asia-Pacific Theater. In many respects, Russian inclusion in the North Atlantic alliance could be considered strategically advantageous for America with regard to developments in East Asia. Among the other benefits, it could effectively preempt the establishment of formal politico-military ties between a weakened Russian Federation and a modernizing People's Republic of China (PRC), a bloc of developing countries increasingly disenchanted with the US strategy of democratic internationalism and, thus, very likely to challenge American interests on a regional or global scale.

However, if a policy of US advocacy of Russian NATO accession is attempted without proper forethought and planning, it could backfire on the US by undermining its policy of engagement with both China and the area's other predominant player, Japan—two nations with historic and ongoing disputes with Russia. Consequently, a set of carefully constructed and skillfully presented security arrangements among and between the four powers, to perhaps include nonaggression guarantees, territorial concessions, and extensive confidence building measures, may need to be formalized in concert with Russian accession in order to allay Oriental concerns, old and new.

Bold vision demands bold action. The vision is expressed unequivocally in US National Security Strategy: "the construction of a truly integrated, democratic and secure Europe, with a democratic Russia as a full participant." The action is one needed sooner rather than later: open US advocacy of eventual Russian entry into NATO.

NATO's IDENTITY AT THE CROSSROADS: INSTITUTIONAL CHALLENGES POSED BY NATO's ENLARGEMENT AND PARTNERSHIP FOR PEACE PROGRAMS

Maj Marybeth Ulrich

Dept of Political Science, USAF Academy

EXECUTIVE SUMMARY

NATO enlargement and its accompanying Partnership for Peace (PfP) process has been criticized as the product of an incomplete, presidential, and personality driven US policy process developed wholly outside a regular bureaucratic process of strategic review. Since the introduction of the enlargement and PfP into the lexicon of European security in 1993, strategic, political, and institutional developments have pushed the parallel initiatives to evolve dramatically. This paper traces the developments in these outreach efforts to non-NATO member states in Europe and highlights the issues that these programs have both solved and produced in the process. Although handicapped by the lack of a set of theoretical principles to guide the process of enlargement and outreach to the East, some principles are beginning to emerge that may serve the Alliance well as it continues its adaptation into the next century. However, as a process without a thought-out plan at the start, there have been some unintended consequences resulting from PfP's five-year evolution. Now NATO is an Alliance at a crossroads that must confront a series of issues that may threaten its core values of consensus and collective defense.

NATO ENLARGEMENT AND THE BALTIC STATES: IN THE INTEREST OF EUROPEAN SECURITY

Capt Stephen Lambert
34th Education Squadron, USAFA

EXECUTIVE SUMMARY

Looking at NATO history it is necessary to pay attention to the fact that NATO expansion is not a unique event as it occurred before. Nevertheless, NATO expansion to the east and especially the potential admission of the former Soviet republics is causing heated debates on both sides of the Atlantic Ocean. The European security landscape of the XXI century is being shaped today, and the inclusion of the former Soviet republics into NATO could dramatically change the geopolitical equation in Europe and would create new challenges for Russia. Objectively, Russia would be left out of the new security architecture since it is not a NATO member and thus has no veto right in NATO decision-making.

Today the main source of global friction between the US and Russia is a different approach to world processes. In accordance with the US conception of the "New World Order," the US—as the only superpower—should play the leading role, often associated with "a world policeman" in a unipolar world. However, the Russian official assessment of the current world trend is a lengthy transition from a bipolar to a multipolar world. According to the official *Conception of the National Security of the Russian Federation*, "International threats to the national security of the Russian Federation come from the attempts of other countries to counter the strengthening of Russia as one of the influential centers of the shaping multipolar world."

From the official US standpoint, the US objective in Europe involves "preserving and enhancing the effectiveness of European security organizations, especially NATO, as the principal vehicle for continued United States leadership and influence on European security issues." In this context NATO expansion should be considered a tool of US global policy to preserve and expand US leadership in Europe. Therefore, objectively, NATO expansion is leading to the projection of US influence on the territories of the Eastern European countries and former Soviet republics.

Despite official declarations from both sides about mutual desires for cooperation, there are signs of distrust and suspicion. NATO and US leaders do not fully believe in furthering Russia's democratic and peaceful development, and regard NATO expansion as a hedge against Russia's possible aggressive revival. This point-of-view is based mainly on past experiences with the Soviet Union, which are now being transferred onto present Russia. At the same time some Russian experts admit that part of the blame lies on the Russian side. On many occasions Russian think tanks are more active in making contacts with NATO counterparts than the Russian military. Ironically, even though it is a signatory of the PfP program, Russia nevertheless often refuses to participate in PfP exercises. This does not help but cause suspicion in the West, thus creating an undesirable image of the country.

The Baltics' major mistake is that, to a great extent, they wrongly regard Russia today as the Soviet Union, thus connecting a nation with a political system. The Baltic approach can hardly be assessed as productive—the Baltic countries remain hostage to history in their foreign policy-making—and this drags their past into the present and the future. In the short-term, the Baltics basically have the following security concerns: international crime (like money laundering); illegal immigration; drug trafficking; and environmental issues. These concerns do not have a military character—they are more or less equally prescient for both NATO and non-NATO European countries. In the long-term, the problem of Russia is inevitably raised. The Baltics are uncertain of Russia's future as a peaceful and democratic state. They consider NATO membership as a guarantee for their security in the future.

In this regard, the Baltics believe they have three security options: (1) to integrate with the West through joining NATO; (2) to adopt a neutral position as Sweden or Finland; and (3) to become a satellite of Russia. The Baltics give a high priority to the first option. Under present conditions, when it is impossible to speak about a Russian military threat, the Baltics regard NATO membership as an opportunity to join the Western community. Reminded of their annexation in 1940, the Baltics consider the second option as the least desirable. They reject it because on the one hand, they distrust Russian intentions, and on the other hand they, distrust both Western and Russian security guarantees. The main task of Baltic foreign policy is to preserve what they call the "gray zone" of security in Europe between NATO and Russia. In this case, it would be logical to suppose that if the Baltics join NATO, the Western dividing line running along the Baltic's western borders will move to their eastern borders with Russia. This is a perfect example of "zones of interests or influence" and dividing lines. The Baltics are seriously concerned about the third option though they fail to identify the signs of such scenario.

On the whole, the Baltics look at NATO as a means to integrate with the West to defend against threats from Russia. NATO is crucial for them as a collective defense alliance. The atmosphere of a besieged territory and the exaggerated role of victim played by the Baltics (the role of the victim is acknowledged by US experts) is beneficial as this justifies their desire to join NATO. The trouble is that "the predisposition to see Russia as a potential enemy would likely be strengthened as new members with strong and fresh anti-Russian feelings join the alliance [NATO]." Thus, there may be instances when these Baltics sentiments will be materialized in NATO policy towards Russia.

Russia is concerned with a clear-cut NATO trend to adopt the role of the flagship international organization aimed at resolving conflicts in Europe, and what is more unprecedented, without UN or OSCE sanctions. There is a tendency that NATO has been assuming both the role of the judge and the policeman in Europe. Russian anxiety is based on a well-known proverb: *If a hammer is the only instrument that one has, then all the rest will look like nails*. Though there is no hostility between NATO and Russia now, NATO expansion to the east brings indirect danger that the use of force will be replaced by the threat of its use—the closer NATO is to Russia the bigger that threat becomes. This relates to the US concept of *Forward Presence*. NATO is capable of achieving the same objectives without the use of force that it was supposed to achieve with the use of force beforehand. Under pressure, Russia can be coerced into forced cooperation, in effect to make concessions in economic, military, and political fields. Moreover, all can be done within the legal framework of signed international agreements and international law.

In his interview speaking about Russian opposition to the Baltics joining NATO, the former Russian Foreign Minister Yevgeni Primakov stated, "It's not because it's [the Baltics] our sphere of influence: there are many moral, psychological, political and military reasons." In another interview Primakov noted that "In [the] case of the Baltics, the point is not only in the strategic aspects. Moral and political ones are added. We have gone from the Baltics completely leaving nothing. And I am sure that it will be very hard for the Russian population 'to digest' the fact that infrastructure created and left by us in the Baltics will be used by other armed forces." According to a different Russian expert, Mr. Oznobishev, "Russia's broad military interests have three interrelated elements: (1) preventing any single state from dominating the Baltic area both on sea and on land; (2) preventing the emergence of hostile political-military organizations as well as discouraging existing ones from expanding; and (3) preventing the militarization of the Baltic states and the establishment of any foreign military presence."

Today and in the foreseeable future the Baltics do not face foreign military challenges. The existing challenges are best tackled by other more suitable bodies, for example, by the European Union. The US and NATO should appeal to the EU to accelerate the Baltics' admission into the EU. On the one hand, this military status quo will make it possible for the Baltics to solve their major problems within the framework of the EU. In this way, the Baltics integrate into the Western community. After that they may decide what to do with NATO membership. One US official recently commented that it may become less critical for the Baltics to be NATO members as time goes by. A

positive result may be achieved without antagonizing Russia. On the other hand, while establishing fruitful cooperation with NATO, Russia may stop resisting further expansion seeing it as benign to Russia.

Should the Baltic States—Estonia, Latvia, and Lithuania—be invited to join NATO in a future tranche of Alliance enlargement? First, what is the core function of the Alliance and how would these potential new members contribute to or detract from this essential foundation? This should be accomplished both within the context of the security concerns of the three aspirants as well as the bedrock security requirements of the Atlantic Alliance. Second, what is the state of the relationship between NATO, the United States, and the Russian Federation? Third and finally, what type of European security architecture would be required in order to allay Baltic fears about potential Russian recidivism? Although the Cold War is over, Baltic history bears the marks of half-a-century of Soviet domination. Their new-found independence has afforded the Baltics the opportunity to seek to enmesh themselves in the economic and security structures of the Euro-Atlantic region. In pursuing this strategy, what is required in order to hedge against future threats, in particular those that could come from the Russian Federation?

NATO is *not* a collective security organization. The reason that NATO has endured for nearly 50 years is that it provides a substantial and credible military guarantee for the defense of its member states. Ultimately, this guarantee is underwritten by the Alliance's strategic nuclear forces. The very core of this guarantee is Article 5 of the Washington Treaty, which obligates Alliance members to come to the *collective self-defense* of any member state that is threatened or attacked. As another NATO observer recently stated, "Although Russia routinely urges NATO to de-emphasize this core function, this would amount to saying that national security is no longer important. From it flow all the benefits of joint planning, transparency, non-renationalisation of defense, and cooperative behavior."

Consider the fact that the distance from the Latvian border with the Russian Federation's Pskov Military District to the Baltic Sea at Liepaj is approximately 270 miles. The concept of forward defense becomes extremely difficult to execute since the eastern periphery of the Baltic states forms a contiguous border with the Russian Federation and Belarus. A credible military defense would therefore require major forward basing by NATO troops throughout the Baltic region, something that seems needlessly provocative and expensive in the current context. The primary question, therefore, in considering Baltic accession, involves the issue of defensibility. If NATO commits to Article 5 with the Baltics, it may weaken the very nature and credibility of collective defense as a whole.

An equally important element in considering the Baltic states for NATO membership is their neighbor and former antagonist to the East, the Russian Federation. Christoph Bertram writes that "As the walls tumbled all over Europe, there were many who hoped that now the Cold War alliances would be replaced by an all European security framework." The Russian Federation, especially, hoped that its old Cold War adversary, the Atlantic Alliance, would fade away just as the Warsaw Pact had been overcome by circumstances. There were few who foresaw that the all European security framework that some were hoping for would in the end have to be provided by NATO. Domestically, Russia's transformation into a pluralistic democracy and a functioning market-based economy turned out to be an extremely difficult, if not insurmountable, task threatened by mounting contradictions and failures. President Yeltsin's continued political survival is far from certain, and the "revolving door" style government and presidential cabinet have yet to produce a coherent foreign and security policy for the Russian Federation.

While Russia has virtually acquiesced to NATO enlargement, seeking Baltic membership in the Atlantic Alliance anytime in the foreseeable future would not be a sensible course of action. The core of official NATO thinking seems to revolve around the following three points: (1) Russia will not be given a *droit de regard* involving NATO enlargement, (2) NATO will not be dictated conditions for NATO enlargement—or in effect, create a "second class" NATO citizen, and (3) NATO will preserve widely spread Alliance burdensharing with any new member states. However, most NATO officials

also recognize that there is a Russian "red line," and that this "red line" seems to be any country that was part of the former Soviet Union.

What then would be an appropriate solution to the security needs of Estonia, Latvia, and Lithuania? Unfortunately, the Cold War experience in this region has not left a legacy that allows for constructive engagement and confidence building. Understandably, for many Estonians, Latvians, and Lithuanians, the Soviet Union was an imperial power that occupied those countries after the end of World War II. The ethnic Russians that remain in the Baltics today are therefore seen less as immigrants and more as colonizers, imposed by Moscow. "The fact that the former Soviet military and security establishment is also well represented in this population has reinforced Baltic fears that some members of the Russophone community could be susceptible to appeals by revanchist political forces in Moscow that might seek to mobilize the community as a potential fifth column."

Notwithstanding, the Baltic states continue to enmesh themselves in Euro-Atlantic economic and security organizations. Estonia is on the fast-track to European Union (EU) membership. This will set the important precedent of making at least one Baltic state part of 'the West.' It will also extend *de facto* an element of deterrence, since Russian intervention—or threat of intervention—in an EU member-state would have serious consequences for its relationship with Europe as a whole. In addition to this, the three Baltic States have signed the Baltic Charter with the United States. The charter affirms that the United States has real, profound, and enduring interest in the independence, sovereignty, territorial integrity, and security of Estonia, Latvia, and Lithuania. It also points toward the vital role being played by a number of complementary and enmeshing institutions and bodies—including the Organization for Security and Cooperation in Europe (OSCE), the European Union, the West European Union (WEU), NATO, the Euro-Atlantic Partnership Council (EAPC), the Council of Europe (COE), and the Council of Baltic Sea States (CBSS).

NATO membership is not tenable for the Baltics because of the lack of defensibility, the lack of domestic political support, and the sensitive nature of incorporating parts of the former Soviet Union into NATO. Ultimately, the final gauge for NATO membership needs to be the Article 5 measurement. However, as historian Donald Kagan of Yale University argues, "The expansion of NATO will be worse than useless unless it is backed by the military power needed to fulfill the pledges we are undertaking." In other words, bluffing is not an option: operational readiness and Article 5 military capability must be exercised, or NATO's credibility will atrophy.

Panel 10: Space Policy
Col Jim Painter, USSPACECOM/J5X, Chair

Maj Steven M. Rothstein, School of Advanced Airpower Studies

- "How the Current View of the Air and Space Environment Influences Development of Military Space Forces"

Lt Col Guy M. Walsh, USCENCOM/J-3

- "Full Spectrum Transition: Initiatives for Integrating Air and Space"

Col Frank Klotz, Defense Intelligence Agency

- "Space, Commerce and National Security"

HOW THE CURRENT VIEW OF THE AIR AND SPACE ENVIRONMENT INFLUENCES DEVELOPMENT OF MILITARY SPACE FORCES

Maj Steven M. Rothstein
School of Advanced Airpower Studies

EXECUTIVE SUMMARY

Perceptions determine actions. The military's perception of the air and space environment influences the type of space forces it will develop in the future. This paper addresses this perception by answering the following question: How does the current view of the air and space environment influence the development of military space forces? The research method centered on surveying literature and interviewing DoD policy makers to develop the idea that the military's current organizational paradigm is a paradox that sees space as a medium, separate from air, while at the same time, bound to it physically, theoretically, and historically. This paradox creates a dilemma that influences the military's ability to advocate and justify requirements, and ultimately garner resources to develop a viable space force. The paper develops measures of merit to show organizational evidence of how these linking and separating positions of the paradigm express themselves within the military. This has both positive and negative aspects for space force development. It promotes a healthy climate for debate, but at the same time, frustrates DoD's ability to generate a healthy concept-pull environment. The paper concludes by opening the door to ideas for resolving the dilemma that the current paradigm presents.

FULL SPECTRUM TRANSITION: INITIATIVES FOR INTEGRATING AIR AND SPACE

Lt Col Guy M. Walsh
HQ USCENTCOM/J3

EXECUTIVE SUMMARY

"Space is an opportunity for us and our adversaries...A lead we cannot lose...An asset we must protect." National Defense Panel Report, December 1997

The military strategy which has long been the basis for American military planning and organization, is rapidly changing as we approach the 21st Century. The reliance on large numbers of ground forces deploying in lengthy, logistic-intensive, build-up phases, to conduct sweeping operations and engage enemy forces, will soon end. In its place, the United States and its warfighting commanders will rely on a strategy where smaller, mobile ground maneuver forces, in a strong defensive coalition, halt enemy forces. Military victory will be achieved through deep battle operations that defeat the enemy and its armies via a combination of parallel warfare, inside-out warfare, strategic and deep attack, and interdiction. Today's US military operations depend on space-based capabilities. That reliance will continue to grow rapidly in the foreseeable future. In addition, the rapidly expanding commercial uses of space make it a vital national concern for economic, as well as military reasons. From a purely military perspective, it is likely that the US will be challenged as adversaries recognize space as an attractive low-cost (asymmetric) strategy against superior traditional air, ground, and sea forces.

The Air Force of the 1990's consists of two separate organizations with very different cultures. The predominant culture is made up of air warriors existing in air-centric organizations. The second culture is a smaller yet emerging culture of space warriors existing in space-centric organizations. Due to this division, the most important and complex challenge facing the Air Force in the next decade is how to integrate these two cultures and organizations into a "seamlessly integrated Aerospace Force". Not surprising is that two approaches currently exist for becoming an Aerospace Force. The air-centric approach is a very slow evolutionary integration of space capabilities into mainstream airpower thinking, strategy and operations. This approach best describes the realities of current USAF planning, force structure, organizational structure, and funding trends. A second approach, normally associated with space warriors in the military space community, is a more space-centric approach. This space-centric approach is a wholly space-based solution with key near-term integration efforts overshadowed by longer-term objectives of space control, space planes, and space-based lasers. Space warriors are well focused further downstream of the airpower community with plans on how to meet less immediate yet equally important challenges of fighting adversaries "to, from, and in space." Because the space community is developing plans to meet these challenges independent from both Joint airpower and regional plans, they tend to view their mission with little regard for the advancement or sustaining of airpower.

The key to the Air Force's ability to effectively utilize its superior aerospace capabilities lies with the need to integrate air and space as quickly as possible. The Air Force must focus on *transitioning* to an Aerospace Force by incorporating the numerous military, civil, and commercial space capabilities into warfighting operations. Assimilating and exploiting the attributes of the global awareness and presence associated with space-based systems is key to rebuilding institutional self-confidence and a single aerospace identity. Establishing the lead in military space use and completing the integration of air and space is crucial if the Air Force is to help reshape military strategy. Within the next decade, the Air Force must move from a strategy based on attrition warfare to one that relies on aerospace and an effects-based asymmetric strategy.

SPACE, COMMERCE, AND NATIONAL SECURITY

Col Frank Klotz
Defense Intelligence Agency

EXECUTIVE SUMMARY

Throughout the past decade, space has become increasingly important to all aspects of American life. The information revolution that is now transforming both private activity and global commerce depends to a very large extent on communications, remote sensing, and navigation satellites. Likewise, space has become vitally important to the American military. During the 1991 Gulf War, the victorious coalition forces relied heavily upon the "high ground" of space to support land, sea, and air operations. In future conflicts, the vast majority of information required to direct forces in combat will be supplied by space-based sensors and instantaneously relayed to the battlefield via space-based communications systems.

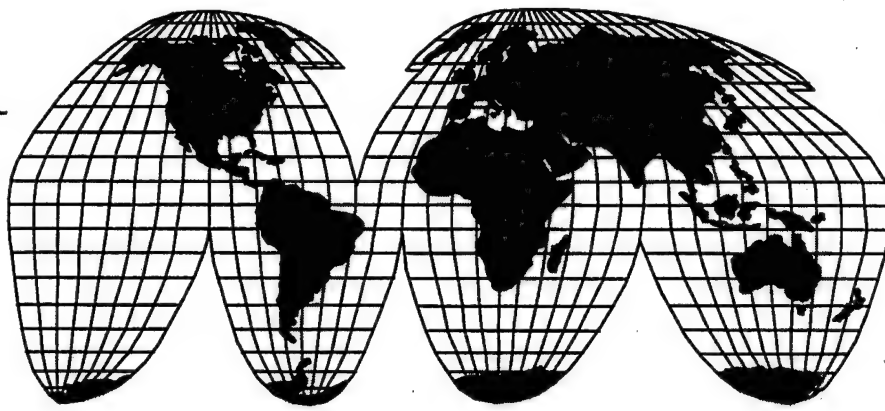
The increasing importance of space to both commerce and national security has given rise to two major concerns. The first is the potential vulnerability of American space systems to disruption in the event of conflict. The second is the possibility that future adversaries will try to improve the performance of their own forces by developing indigenous space systems or by taking advantage of the widening array of space goods and services available in the market place.

Current administration policy emphasizes the need to develop capabilities to protect American space systems and to deny the use of space to adversaries. There is, however, disagreement over how best to achieve these objectives. Over the past year, the broad outlines of a debate on this subject have taken shape. On one side are those who argue that the United States needs to develop a military capability to secure its vital interests in space. On the other side are those who urge instead that arms control and other cooperative measures are the best means to protect American interests in space, as well as to prevent space from becoming an arena of armed conflict.

This monograph describes and analyzes the issues surrounding this emerging debate. It first describes the specific ways in which recent developments have made space so important to both commerce and national security and, at the same time, blurred the dividing line between the two sectors. It then addresses the various approaches to protecting American space assets and denying the use of space to potential adversaries. It argues that the United States will need options ranging from diplomatic to more forceful alternatives in order to deter and protect against attacks on friendly space systems, and, if necessary, to shut off the flow of space capabilities to adversaries.

The study then focuses on what is perhaps an even greater challenge to American use of space in the foreseeable future: the increasing competition for access to space and the political and economic consequences that result from that competition. Already nations have sought to shape and reshape the international rules governing access to and use of space to suit their own national security and commercial interests. Heated disputes have erupted over the placement of satellites into specific operating locations in space. The proliferation of communication, remote sensing and perhaps even navigation satellites suggest that such disputes may be even more likely in the future. For most of the space age, the two superpowers dominated the process of establishing the "rules of the road" for space by virtue of their unique capabilities and presence there. As more nations and international consortia launch and operate satellites in space, American preeminence will be subject to increasing challenge. The study thus concludes that the most important task facing American space policy in the immediate future is to sustain the nation's historical leadership in space in order to ensure the establishment of standards and rules for space that support American objectives. To this

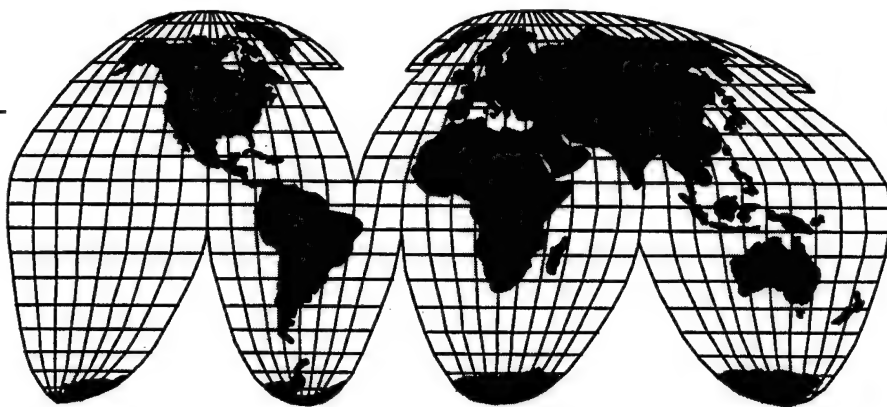
end, particular attention must be paid to developing low-cost access to space, promoting a dynamic domestic space industry, and achieving greater focus and unity of purpose in the formulation of US space policy.



Appendix B

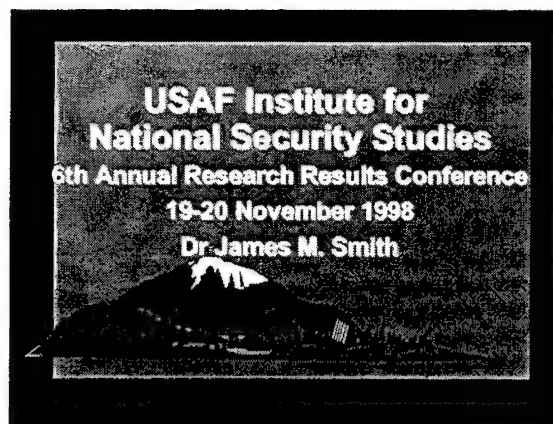
Briefings Presented at Conference

1998 Research Conference



Dr. James Smith

1998 Research Conference

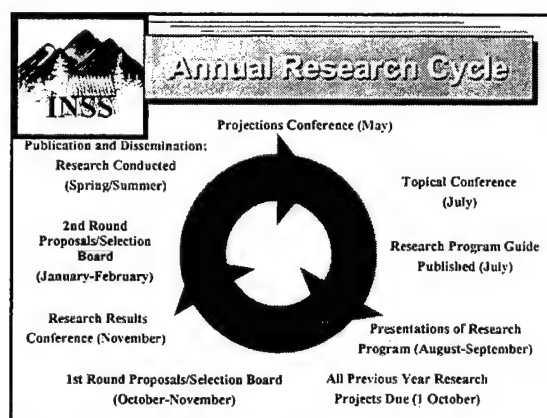
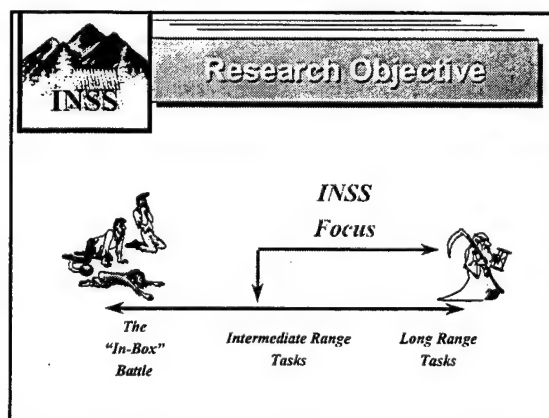
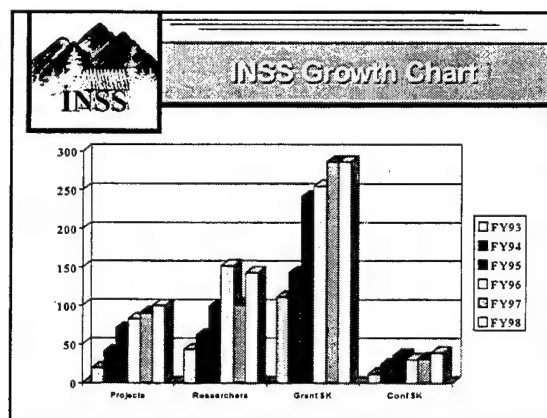


Mission of the Institute

To promote national security research for the Department of Defense within the military academic community, and to support the Air Force national security education program.

Background

- Started in 1992
- Initially a research arm for AF/XONP
- 1st 6 yrs: 400 projects, 700 researchers, \$1,300,000
- Researchers located worldwide at over 30 schools:
 - Service Academies: USAFA, USNA, USMA
 - ISS: ACSC, ACGSC, NPS, AFIT
 - SSS: National, Air, Army, and Naval War Colleges
 - 20+ civilian universities: National Defense Fellows





Sponsoring Agencies

- HQ USAF/XONP
 - Policy Division, Nuclear and Counterproliferation Directorate
- HQ USAF/XOI
- Defense Threat Reduction Agency
- Army Environmental Policy Institute
- OSD Net Assessment
- US Space Command
- HQ USAF/XPPX



INSS Research Topics

- Arms Control
- Counterproliferation
- Air Force Planning
- Regional Security
- Information Warfare
- Environmental Security
- Space Policy



Advantages for Sponsor Organizations

- Maximize return for research dollars
- Inject fresh thinking into planning process
- Tap military academic community
- Create pool of topical and regional experts
- Provide means for educating Air Force and DOD on defense policy issues
- Act as networking locus for people and ideas between policy and academic communities



Advantages to Researchers

- Enhance professional development
- Working real issues that meet sponsor needs
- Demonstrate and showcase research organization's value to DOD
- Offset loss of other research funding
- Follow-on assignment potential
- Publication potential



Publications

- Three books edited by INSS staff:
 - *Countering the Proliferation and Use of Weapons of Mass Destruction*, McGraw-Hill 1998
 - *American Defense Policy*, 7th Ed, Johns Hopkins 1997
 - *Arms Control Toward the 21st Century*, Lynne Rienner 1996
- **INSS Occasional Papers (21 as of Aug 98):**
 - #17 Larsen, "NATO Counterproliferation Policy: A Case Study in Alliance Politics"
 - #18 Henk, "Uncharted Paths, Uncertain Vision: U.S. Military Involvements in Sub-Saharan Africa in the Wake of the Cold War"
 - #19 Smith, "USAF Culture and Cohesion: Building an Air and Space Force for the 21st Century"
 - #20 Hall, Cappello, and Lambert, "A Post-Cold War Nuclear Strategy Model"
 - #21 Chandler, "Counterforce: Locating and Destroying Weapons of Mass Destruction"
- **Airpower Journal Special Editions: 1994, 1995, 1996**
1-2 articles per quarterly issue since 1996 special edition



FY98 Results

- 100 Projects, 143 Researchers, \$286,000
- \$39,000 to host or support 12 conferences
- Five Occasional Papers
- Average 1 article per issue of *Airpower Journal*
- INSS Website: All Occasional Papers, Electronic Reports; 13,000+ hits since 1 Jan 97
- Hosted our 2nd IREX Fellow: Vakhtang Maisaia from Tbilisi, Georgia



Recent INSS Events

- INSS Fissile Materials Workshop #5, 3-4 February, Lawrence Livermore National Laboratory
- *Countering the Proliferation and Use of Weapons of Mass Destruction* (New York: McGraw-Hill, 1998)
- INSS/NPEC Faculty Seminar on Teaching Nonproliferation, 17-20 June, USAF Academy
- 6th Annual INSS Topical Conference, 29-30 July, USAF Academy—*Spacepower for a New Millennium: Space and U.S. National Security*



Vision

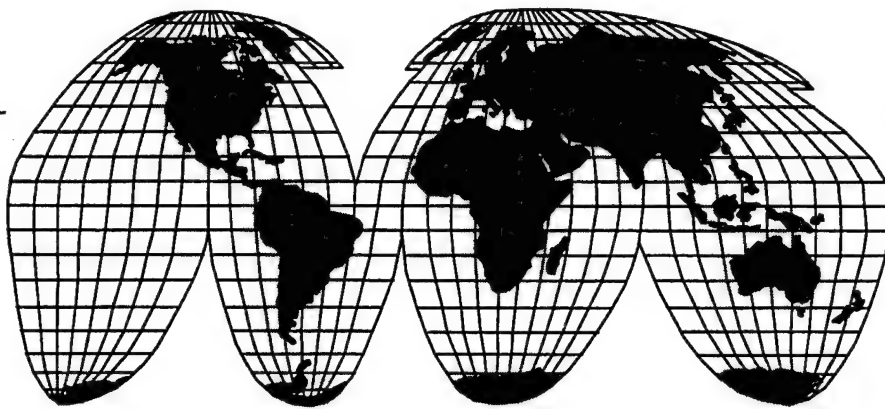
Be the Air Force institute of choice for promoting, coordinating, and disseminating vital national security research that influences DOD policy development



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Capt David R. King

1998 Research Conference

Arms Control and Defense Planning in a Multi-Polar World

David R. King, Captain, USAF
HQ USAFA/DFM

Overview

- General Issue
- World Views
- Policy Options
- Suggested Framework
- Conclusions

General Issue

- The Post-Cold War world is different
- Policies need to change to address current challenges
- New policies need to reflect world views of different nations

World Views

- United States
- Major Powers
- Regional Powers

World Views United States

- Domestic Focus
- Balance of Power
- Global Leadership
- International Norms
- Spread of Western Values
- Autonomy

World Views Major Powers

- Russia
 - Role of Arms Sales
 - Balance American Interests
- China
 - Economic Focus
 - Rapidly Growing Power
 - Resisting American Influence

World Views **Regional Powers**

- End of Cold War removed forced stability
- Regional Powers Less Stable
 - External Threats
 - Internal Threats
- Increased American Activism viewed as a threat

World Views **A Case for Balance of Power**

- Multi-polar environment is less stable and America has less influence
- Other nations seeking to balance American interests
- Power will emerge to balance American influence

Policy Options

- Cooperative Relationships
- Deterrence
- Economic Options
- Confidence Building

Policy Options **Cooperative Relationships**

- Build Relationships with Nations
- Look for:
 - Influence in key regions
 - Similar Government
 - Open Economy
 - Developed Infrastructure
 - Professional Military
- Potential backlash from new governments

Policy Options **Deterrence**

- Nuclear
 - Less Credible for United States
 - Use as WMD deterrent hurts non-proliferation efforts
- Conventional
 - Credible and Most likely to be used
 - Needs further development

Policy Options **Economic Options**

- Economic Sanctions
- Export Controls
- Buy Compliance
- Military Assistance

Policy Options **Confidence Building**

- Ensures nations talk to nations they need to talk to the most
- Establishes means of improving relationship
- Success requires as much work as other policy options

Suggested Framework

- Focus on Two Initiatives:
 - Conventional "Triad"
 - Diplomatic Initiatives

Suggested Framework **Conventional "Triad"**

- Rapidly Deployable Forces
- Regional Ballistic Missile Defense
- Long-range Precision Strike

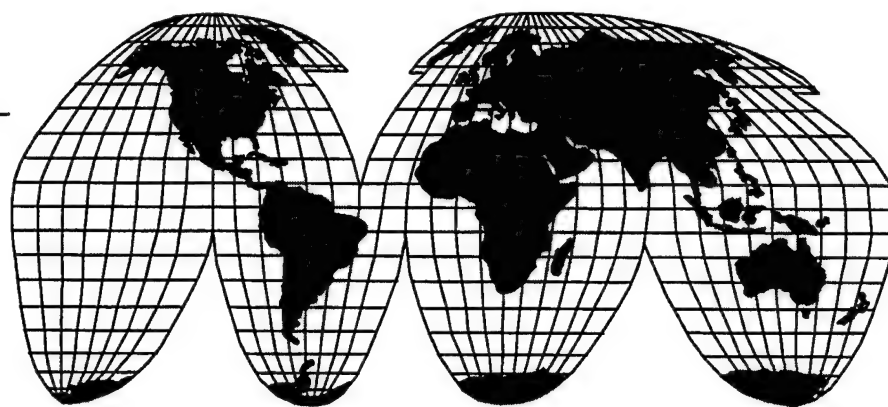
Suggested Framework **Diplomatic Initiatives**

- Three-part Information Strategy:
 - Improved Export Controls
 - Military Assistance
 - Confidence Building

Conclusions


- New Strategy will emerge to address Post-Cold War Challenges
- Arms Control remains important, but focus has changed
- Opportunities for Research:
 - Role Non-Government Organizations
 - Impact of Technology Diffusion

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Lt Col Roy E. Horton III

1998 Research Conference




ACDIS

Out of (South) Africa

- Pretoria's Nuclear Weapons Experience -

Roy E. Horton III, Lt Col, USAF
National Defense Fellow - AY98
Program in Arms Control, Disarmament
and International Security - Univ. of Illinois

Slide 1




ACDIS

Roadmap

- Purpose
- Key Findings
- Broader Issues
- Recommendations

Slide 2




ACDIS

Purpose

- Impact of RSA leadership on their nuclear program and its subsequent rollback
- Impact of US nonproliferation measures on South African decisionmaking
- Prospects for nuclear "threshold" nations

Slide 3




ACDIS

Key Findings

- South African Nuclear Program -

- Nuclear capability achievable quickly, quietly and relatively cheaply
- Security concerns drove pace/rollback
- Nukes remain the "coin of the realm"
- Proliferation challenges likely to worsen

Slide 4



ACDIS

Broader Issues

- Nuclear weapons linked to national identity
- Facts are facts—politics are totally different
- Consistent US nonproliferation policy?
- A "cheap" deterrent?

Slide 5




ACDIS

Recommendations


- Decreased Risk, Enhanced Security -

- Enforce nonproliferation regime
 - Ratify Comprehensive Test Ban Treaty
 - Conclude Fissile Material Cut-off Treaty
- Promote information sharing
- Deny threshold nation opportunity to test/thwart access to warhead material

Slide 6




Recommendations ACDIS


- A Different Perspective - 

- Threshold nation's point of view vital to understanding motives
- Must engage nations from their level
 - Core vital interests/security concerns
 - Pursue unilateral/bilateral agreements
- Pakistan/India: lessons learned

Slide 7




Recommendations ACDIS


- Consider the Costs - 

- Highlight "opportunity costs" associated with nuclear programs
 - US program estimates: \$30B - \$200B+
- Divert lethal resources to more productive ends
 - CTR for South Asia? Middle East?

Slide 8




Recommendations ACDIS


- Bottom Line - 

- Nuclear rollback is possible...
 - Must focus on regional security concerns
 - Threshold nations must promote transparency of efforts
 - US must steer clear policy path to avoid blunting proliferation objectives
- Gradual progress expected...
 - South Africa's path is not the likely norm

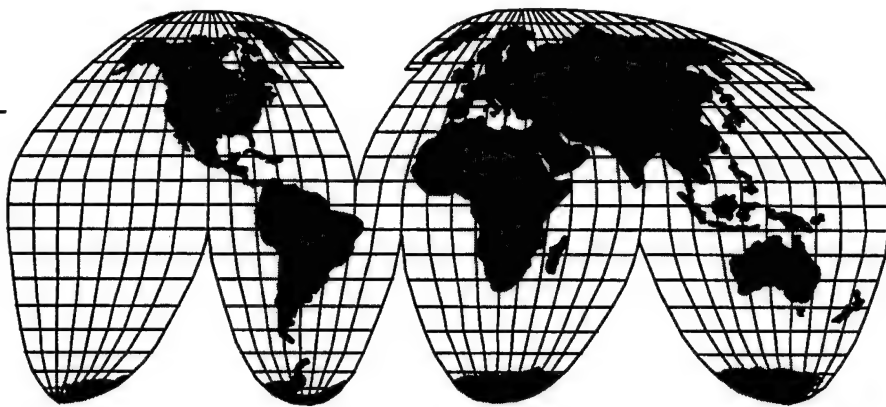
Slide 9



Out of (South) Africa

- Pretoria's Nuclear Weapons Experience - 

Slide 10



Dr. M.E. Ahrari

1998 Research Conference

GROWING STRONG: NUCLEAR GENIE IN SOUTH ASIA

Overview

- Reasons for India's Decision to Go Nuclear
- Nonproliferation Regime-related Concerns
- Domestic Reasons
- Post-Pokhran II Options for India
- U.S. Choices
- Choices worth considering

Reasons for India's Decision to Go Nuclear

- Strategic Reasons
 - Need to be recognized by its neighbors & the world as a potential great power
 - Need to have unfettered access to dual-use technologies
 - Aspirations for the permanent membership of the U.N. Security Council
 - Growing concern about the continuing Sino-Pakistani nexus

Nonproliferation Regime-related Concerns

- The extension of the NPT in 1995 and the passage of CTBT in 1996 intensified India's sense of isolation
- The growing possibilities of FMCT becoming a reality in coming months/year

Domestic Reasons

- High degree of public support for nuclear option played in the hands of the minority BJP govt.
- The adoption of nuclear option by BJP government would have only strengthened its position in future elections
- Pressure from the scientific community to conduct nuclear tests

Post-Pokhran II Options for India

- Willingness to sign NPT and CTBT provided that the West would lift all sanctions, especially related to dual-use technologies
- Refusal to undo the nuclear option a la South Africa

U.S. Choices

- Continue to put pressure on India & Pakistan to undo their nuclear option & halt their respective missile testing (optimal choice)
- Demand that these countries do not weaponize (minimal option)
- Continue to use sanctions on both countries, with heavier pressure on India

Choices worth considering

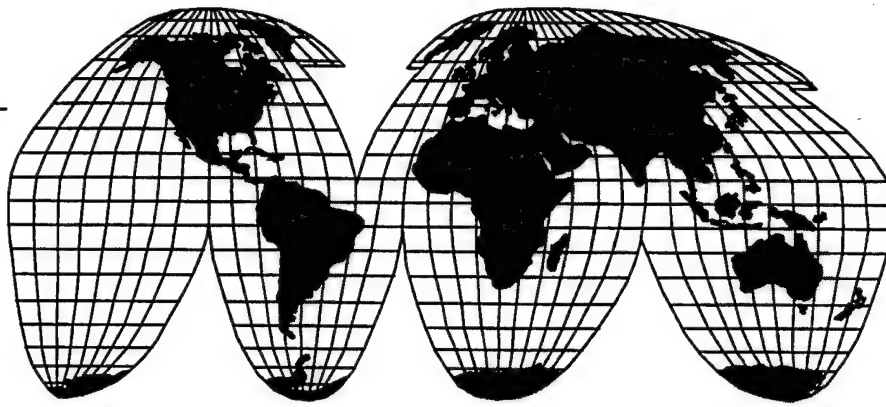
- Acceptance of India/Pak as nuclear weapon states

Costs:

- Bad precedent; other potential nuclear aspirants are watching
 - Cannot recognize these countries as NWS without amending the NPT

Benefits:

- U.S.-Indian ties might come handy in the power politics of East Asia
 - India & Pakistan are likely to cooperate with the U.S. on nonproliferation policies in coming years as NWS



Dr. Sami G. Hajjar

1998 Research Conference

Security Implications of the Proliferation of Weapons of Mass Destruction in the Middle East

Dr. Sami G. Hajjar
Director, Middle East Studies
U.S. Army War College
Carlisle Barracks, PA 17013

UNCLASSIFIED BRIEFING

Outline



- ◆ Introduction
- ◆ Proliferation & U.S. Interests
- ◆ Regional WMD Programs
- ◆ The Regional Proliferation Dynamic
- ◆ Regional Perspectives
- ◆ U.S. Options & Policy Recommendations

UNCLASSIFIED BRIEFING

Introduction



- ◆ India & Pakistan May 98 Tests
- ◆ Implications for ME
 - ◆ Islamic Bomb?
 - ◆ Israeli Role in India's Program?
 - ◆ Horizontal Proliferation?
 - ◆ Incentive for "great power status"?
- ◆ Focus: Proliferation & Peace Process
- ◆ Inter-connectivity Thesis
- ◆ Proliferation Game
- ◆ Emphasis on Why Nations Proliferate

UNCLASSIFIED BRIEFING

Proliferation & U.S. Interests

- ◆ National Security Strategy
- ◆ U.S. Interests
 - ◆ Oil
 - ◆ Peace Process
 - ◆ Other Interests
- ◆ Rogue Nations: Iran, Iraq, Libya, Syria
- ◆ History of WMD Use
- ◆ Other Proliferating States

UNCLASSIFIED BRIEFING

Regional WMD Programs

Introduction

Israel's Quest for Strategic Weapons
Arab Desire for Balance

Israel

Iran

The Arab World

Iraq

Syria

Libya

Other Arab States

Egypt

Saudi Arabia

Algeria

Sudan

UNCLASSIFIED BRIEFING

The Proliferation Dynamic

- ◆ Motivation for Acquisition
- ◆ Qualitative & Quantitative Dimensions
- ◆ Targeting Doctrine
- ◆ Vertical & Horizontal Proliferation
- ◆ Inter-connectivity of Region
- ◆ Availability of Suppliers

UNCLASSIFIED BRIEFING

Regional Perspectives

- ◆ The Parity Imperative
- ◆ The NPT Shortcomings Incentive
- ◆ The Vertical Proliferation Factor
- ◆ The Monitoring Proposal
- ◆ The Ideological Quest
- ◆ Weapons Control & CBM
- ◆ Israeli Views & Dilemmas

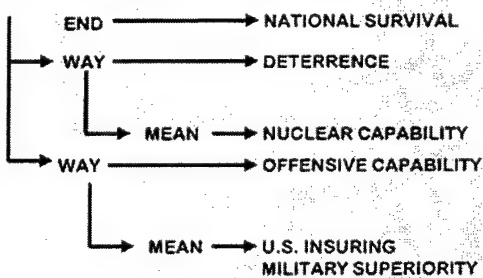
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U.S. Options & Recommendations

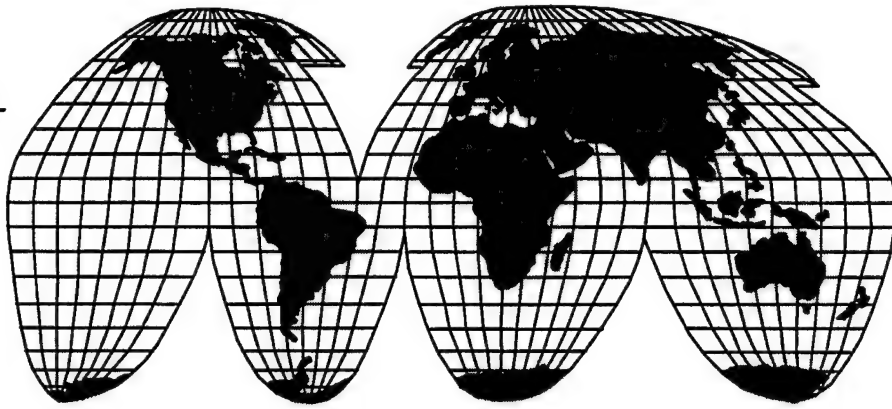
Nonproliferation
Security Regimes
Supply-side Initiatives
Demand-side Initiatives
Counter-Proliferation
Assessment of U.S. Anti-proliferation Efforts
Review Proliferation Triad of Deployment,
Doctrine & Employment
U.S. Credibility Issues
Confidence Building Measures
ME Center

UNCLASSIFIED BRIEFING

Israel's Security Strategy



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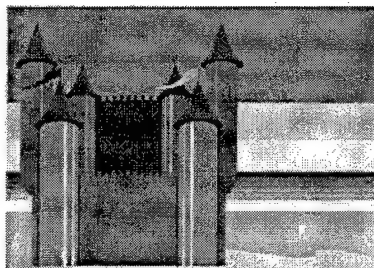


Col Carla D. Bass

1998 Research Conference

BUILDING CASTLES ON SAND?

Ignoring the Rip Tide of Information Operations



By Col Carla D. Bass, USAF

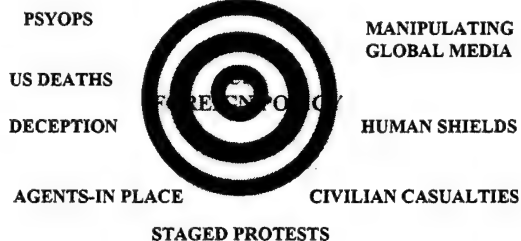
MAJOR MISPERCEPTION...

IO ≠ COMPUTER WARFARE

INFORMATION OPERATIONS

- "actions taken to affect adversary information and information systems while defending one's own information and information systems."
- Consists of operations security (OPSEC), psychological operations (PSYOP), deception, electronic warfare (EW), physical destruction, and, from the USAF perspective, information attack.
- Employed in tactical or strategic air, land, sea, or space-based operations, or may be compiled into an IO campaign plan supporting strategic objectives.

THE INFO WAR RAGES




NEW FRONTIERS

...the character of future wars is going to be entirely different from the character of past wars...*we had better get accustomed to this idea and prepare ourselves for the new conflicts to come.*

Douhet



"THE CASTLE"



DOMINANT BATTLESPACE AWARENESS

FULL SPECTRUM DOMINANCE **DOMINANT MANUEVER**

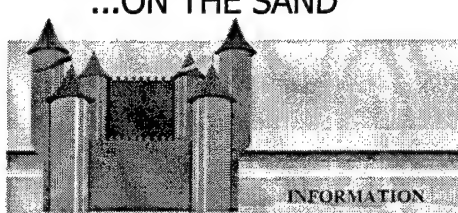
PRECISION ENGAGEMENT FOCUSED LOGISTICS

FULL SPECTRUM DOMINANCE ALLOWS:

- JOINT FORCES TO PREVAIL
- ACROSS NATIONAL MILITARY STRATEGY
- THROUGHOUT THE CONFLICT SPECTRUM.

AFDD 1-1

"...ON THE SAND"



INFORMATION

- LIMITED COMM CAPACITY
- C2 IS NOT INTEROPERABLE
- INTEL IS NOT INFALLABLE
- SPARCE HUMINT RESOURCES
- WE WILL BE SUBJECTED TO IW ATTACKS

IO AWARENESS IS SINGULARLY THE BIGGEST PROBLEM WE HAVE...

THE PROBLEM IS GETTING WARFIGHTERS TO REALLY UNDERSTAND THAT THIS IS EVERY BIT AS SIGNIFICANT AS SOME ENEMY BOMBER...

THEY'VE BEEN RAISED ON TANKS AND PLANES...THERE'S A BIG MIND-SET YOU'VE GOT TO OVERCOME.

**LT GEN BUCKHOLTZ
DIRECTOR, JCS/J6**

"WHO'S ON FIRST..."

UNITS WITH IO FUNCTIONS...TO NAME A FEW!

AFIWC	JBC	JC2WC	JCMA
		LIWA	
JCSE	AIA	FIWC	
	JFWC	ACOM	JWAC
NIWA		AFCERT	JSC
ACC	AF IW	BATTLELAB	
CINCS	IOTC		DISA
		SERVICE HEADQUARTERS	

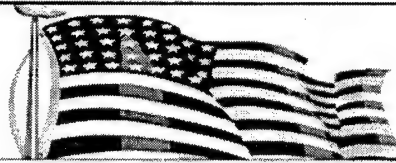
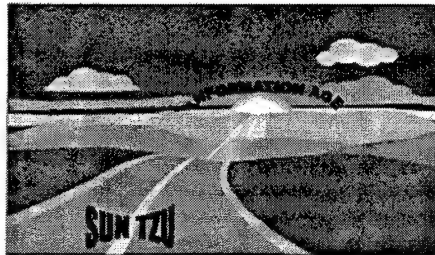
"CRY HAVOC AND LET LOOSE THE DOGS OF WAR"

- WHO WILL LEAD THE IO CHARGE?
- SEVERAL PROPOSALS MADE THUS FAR
 - CREATE AN IO NAF SUBORDINATE TO ACC
 - GROUP JOINT UNITS UNDER A FLAG OFFICER
 - DIVIDE MISSION AMONG GEOGRAPHIC CINCs
 - ORGANIZE FUNCTIONALLY (UNIFIED COMMAND)
 - ESTABLISH NEW UNIFIED COMMAND FOR IO
 - ASSIGN IO TO SPACECOM, STRATCOM, OR ACOM

WHY ACOM?

- CURRENTLY TASKED WITH JOINT TRAINING, FORCE INTEGRATION AND DEPLOYMENT
- DEFENSE REFORM INITIATIVE IS EVOLVING USACOM MISSION. TRANSFERS TO ACOM:
 - JOINT WAFRIGHTING CENTER
 - JOINT COMMUNICATIONS SUPPORT ELEMENT
 - JOINT COMMAND & CONTROL WARFARE CENTER
 - JOINT BATTLE CENTER
 - JOINT WARFIGHTING ANALYSIS CENTER

"TO BOLDLY GO..."



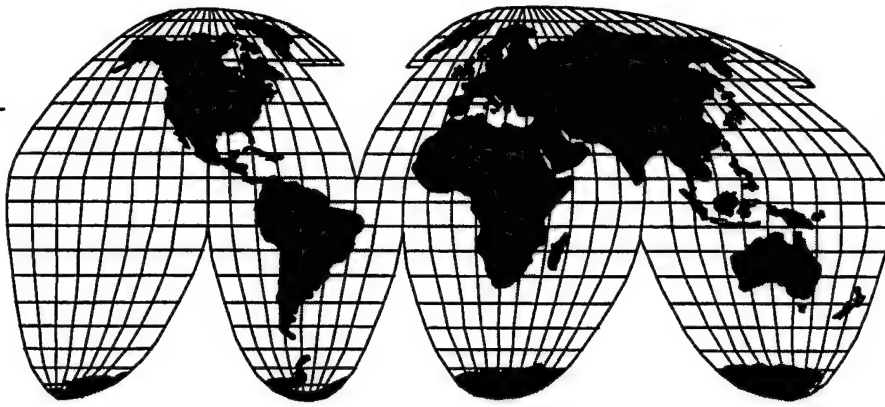
**"VICTORY SMILES UPON THOSE WHO ANTICIPATE
CHANGES IN THE CHARACTER OF WAR, NOT UPON
THOSE WHO WAIT TO ADAPT THEMSELVES AFTER
CHANGES OCCUR..."**

**THOSE NATIONS CAUGHT UNPREPARED FOR THE
COMING WAR WILL FIND WHEN WAR BREAKS OUT,
NOT ONLY IS IT TOO LATE FOR THEM TO GET READY
FOR IT...**

THEY CANNOT EVEN GET THE DRIFT OF IT."

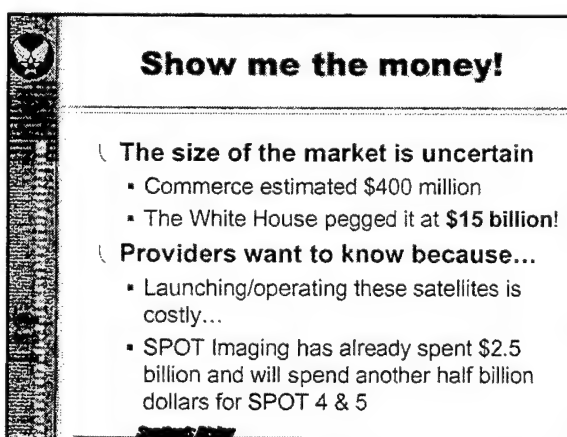
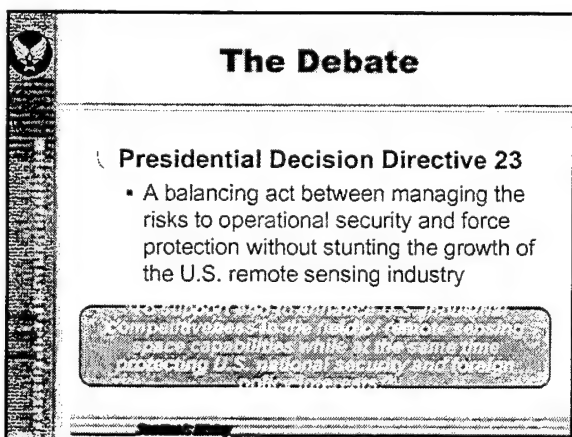
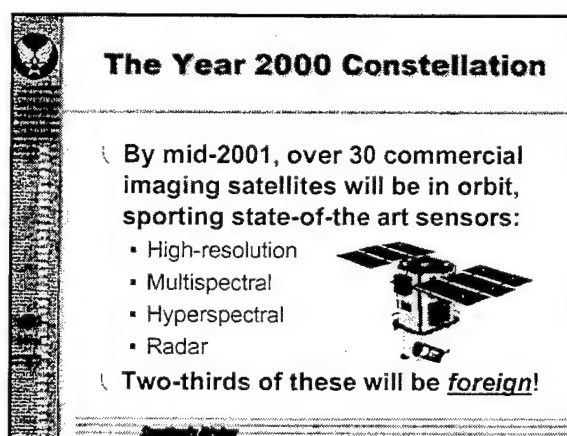
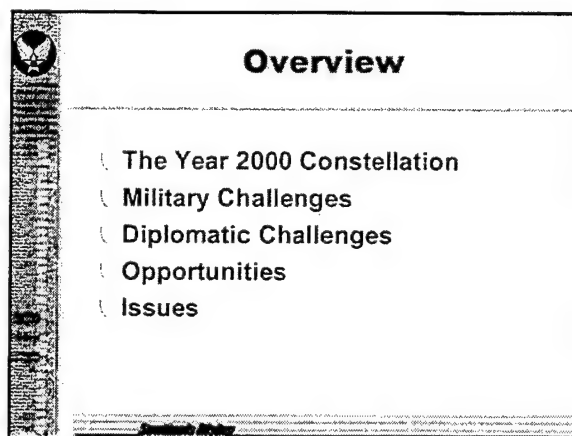
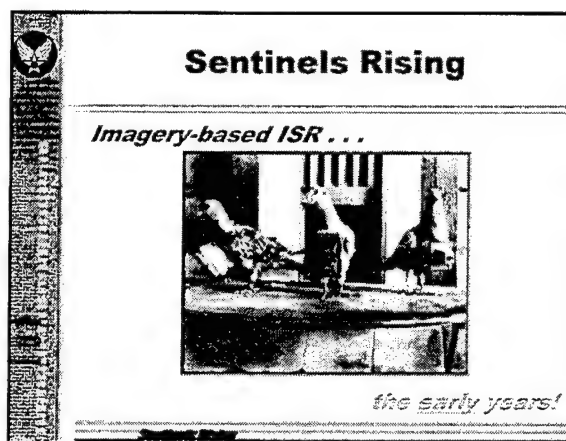
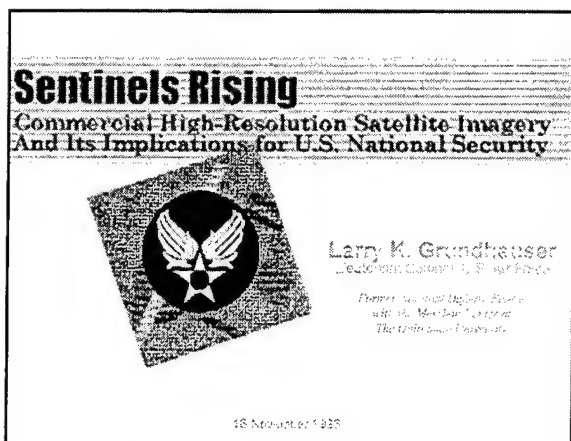
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Lt Col Larry K. Grundhauser

1998 Research Conference



The Military Challenges

A Historical Perspective—Corona

- Project Corona operated under cover as the *Discoverer* space flight program
- Lifted the veil of secrecy from the USSR and debunked the myth of a “missile gap”
- Corona provided a treasure trove of vital information despite relatively poor spatial resolution and cumbersome dissemination

Spatial Resolution One Measure of Military Utility

TARGET	DETECTION	GENERAL ID	PRECISE ID	DESCRIPTION	TECHNICAL ANALYSIS
Isotopes	6	4.5	1.5	1	0.3
Radar	3	1	0.3	0.15	0.015
Supply Dumps	1.5-3.0	0.6	0.3	0.03	0.03
Troop Units (in houses or on roads)	6	2	1.2	0.3	0.15
Airfield Facilities	6	4.5	3	0.3	0.15
Rockets and Artillery	1	0.6	0.15	0.05	0.045
Aircraft	4.5	1.5	1	0.15	0.045
Command & Control HQ	3	1.5	1	0.15	0.09
Missiles (SSM/SAM)	3	1.5	0.6	0.3	0.045
Surface Ships	7.5-15	4.5	0.6	0.3	0.045
Nuclear Weapons Components	2.5	1.5	0.3	0.03	0.015
Vehicles	1.5	0.6	0.3	0.06	0.045
Warehouses (land)	3-9	6	1	0.03	0.09
Ports and Harbors	30	15	6	3	0.3
Coasts and Landing Beaches	15-30	4.5	3	1.5	0.15
Railroad Yards & Shops	15-30	15	6	1.5	0.4
Roads	6-9	6	1.5	0.6	0.4
Urban Areas	60	30	3	3	0.75
Terrain	—	90	4.5	1.5	0.75
Submarines (surfaced)	7.5-30	4.5-6	1.5	1	0.03

Utility Studies

Carnegie study—late 1980s

- Obtained Landsat, SPOT, and SOYUZKARTA KFA-1000 imagery
- Outsourced imagery analysis to experts

Air Force Space Command—1997

- Operation SEEK GUNFIGHTER
- “Red Cell” analysis of open source info

Beyond Spatial Resolution

Spectral Information

- MSI and HSI sensors & expert systems

Synergy

- Combining phenomenology (pan & MSI)

Global Positioning System (GPS)

- Potential adversaries “thinking precisely”

The Diplomatic Challenges

The Carnegie Endowment's view...

The element of strategic transparency provided by readily available commercial images does far more for maintaining peace than it does for sharpening means of attack.

...but OTA believes that the media's use of satellite imagery would, at a minimum...

...complicate certain U.S. national security activities and certain U.S. foreign policies.

Diplomatic Power Shift

Explosive growth of NGOs and IGOs

- Nearly 18,000 of them by 1990

Seizing the initiative

- Single-issue public interest groups
- Able to force public response

Possible to extend U.S. “eyes/ears”

- Monitoring niche issues; provide tip-off

Arms Control

- \ **National Technical Means (NTM)**
 - Legendary diplomatic currency during the Cold War may lose much of its mystique
- \ **Poor Man's NTM**
 - **Bad News:** Could be used to gauge US NTM for CCD efforts
 - **Good News:** May facilitate regional arms control if used for verification

Compliance Diplomacy

- \ **New players will undoubtedly emerge**
 - NGOs and IGOs & "White Hat" countries
- \ **"Noise"**
 - Proving a negative even tougher
- \ **Cheating "Effective Verification"**
 - Poses challenge to unambiguous detection

The Opportunities

- \ **"Spin Off" model turned around...**

Private sector investments hold the promise of solving Government problems

Colin Clark, former NIMA Director, says that the "Spin Off" model is a good one, but it's not the only one. He says that the "Spin Off" model is a good one, but it's not the only one. He says that the "Spin Off" model is a good one, but it's not the only one.

NIMA's Plans

- \ NIMA will "increase reliance on commercial imaging satellites..."
- \ **Rationale:**
 - Unclassified nature of the data
 - Improved spatial resolution & geopositional capabilities
 - Spectral data adds a new dimension
 - Backup utility for national systems

NIMA's Commitment

"We're committed to it not because it's the right thing to do politically but because it's the right thing to do. It will probably supplant some of the requirements that we have for other imagery, and that can only be good."

—RAGel Dentone, former NIMA Director

Issues

- \ **Shutter Control**
 - Prior restraint and the First Amendment
 - Non-discriminatory access
 - Foreign competition
 - Sensed-State provision

Issues

- (**Space Control**
 - American dependence on satellites
 - Underscored by NDP and CINCSPACE
- (**Satellite legitimacy and immunity**
 - Cold War "practice of the Parties"
 - International legal status

Issues

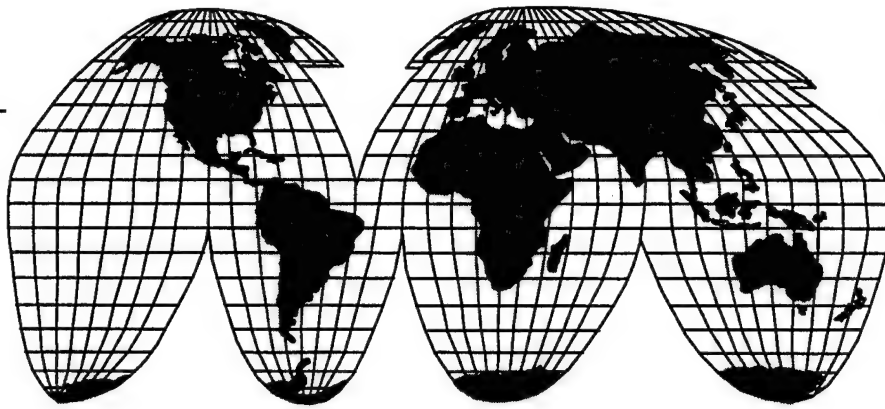
- (**ASAT and the ABM Treaty**
 - Clinton Administration opposition to ASAT
- (**The Nexus**
 - Traditional ABM Treaty interpretation and US-Russia relationship

Conclusions

- (**The debate over the threat posed by high-resolution imaging satellites...**
 - *has more to do with the nature of future conflicts and...*
 - *the preferred structure of America's military*

The Bottom Line

The sky is not falling
 Changes in the geostrategic landscape in a multipolar world will have far more impact on US national security than will any of the current or planned capabilities of commercial imagery satellites.



Lt Col Richard W. Aldrich

1998 Research Conference

How Do You Know You're At War in the Information Age?



By
Lt Col Richard W. Aldrich
AFIT/CIG

Institute for National Security Studies



I. Introduction

- Rows of Redcoats, et al
- Declared Wars
- Nuclear Weapons
- Information Attacks?
- Different Targets



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II. Background

- Scope of the Problem
 - ⇒ Vulnerability of DOD systems
 - ⇒ Level and Character of Attacks
 - ⇒ Cost
 - ⇒ Trigger
- Who Cares if You Can't Tell?



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III. International Law

- The UN Charter
 - ⇒ Article 2(4)
 - "All Members shall refrain in their int'l relations from the threat or use of force against the territorial integrity or political independence of any state or in any other manner inconsistent with the Purposes of the United Nations."



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International Law

- Other Articles
 - ⇒ Article 51
 - ⇒ Article 39
- B. Customary International Law
 - ⇒ Espionage
- C. Treaties



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IV. Limitations

- How Does US Law Apply?
 - ⇒ 1. Constitutional Provisions
 - ⇒ 2. Federal Computer Statutes
 - ⇒ 3. Law Enforcement
 - ⇒ 4. Rules of Engagement
- Foreign Laws



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V. Conclusion

- *Probably Can't Tell*
- *May Fit Under UN Charter*
 - ⇒ *Articles 2(4), 39, 51*
- *Significant Barriers to Detection*
- *Paradigmatic Problems*
- *International Treaty?*

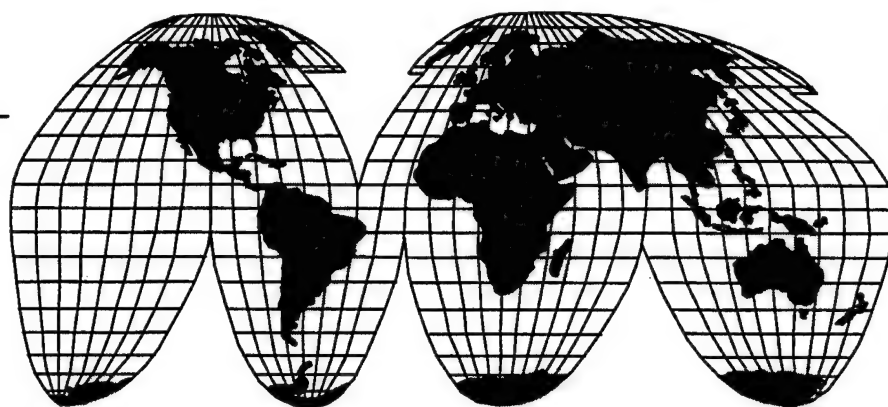
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Questions?

Institute for National Security Studies





Dr. Katherine Carson

1998 Research Conference

Discrete Choice Modeling of Environmental Security

Katherine S. Carson

Dept. of Economics and Geography
United States Air Force Academy

Forecast Which Nations Will Pose the Greatest Threat to U.S. Security as a Result of Environmental Degradation

Outline

- ♦ Introduction
- ♦ Background
 - Theory
 - Econometrics
- ♦ Data
- ♦ Results
- ♦ Conclusions and Policy Recommendations

Introduction

- ♦ Why might environmental degradation generate conflict?
 - Politically unstable regions of the world
 - Population growth, pressure on food and water supplies, pollution
 - Pressures may generate or exacerbate conflicts, both internal and international
 - May require U.S. intervention, either unilateral or through the U.N.

Background

- ♦ Homer-Dixon (1994) has established links between environmental scarcity and conflict
- ♦ Statistical analysis usually based on correlation analysis such as Pearson's Chi-Squared (Homer-Dixon, 1996)
- ♦ Literature finds an indirect link between environmental degradation and conflict

Economic Theory

- ♦ Dynamic Programming Models
- ♦ Brander and Taylor (AER, 1998)
- ♦ Maxwell and Reuveny, 1998
- ♦ Theoretical models establish criteria for choice of independent variables in the model
- ♦ Reflect the degree of pressure that a nation's population is placing on its resources

What is Econometrics?

- ♦ Statistical modeling and validation of economic theories
- ♦ Can lead to improvement of theory or development of new theories
- ♦ Useful in conducting counterfactual experiments
- ♦ Forecasting

Limited-Dependent Variable Models

- ♦ Level of threat or potential for conflict that a nation poses is a latent, or unobserved, variable, y^*
- ♦ $y^* = X\beta + \varepsilon$
- ♦ Observed indicator variable for level of threat, y
- ♦ y can be binary or discrete

Two Models

- ♦ Probit
 - $y = 0$ if $y^* \leq 0$
 - $y = 1$ otherwise
- ♦ Ordered Probit
 - $y = 0$ if $y^* \leq 0$
 - $y = 1$ if $0 < y^* \leq \mu_1$
 - $y = 2$ if $\mu_1 < y^* \leq \mu_2$ etc.
- ♦ Both models assume $\varepsilon \sim N(0, \sigma^2)$

Dependent Variable

- ♦ Coplin-O'Leary 18-month and 5-year risk of turmoil in a country
- ♦ Source: Political Risk Services
- ♦ LOW = 0, MODERATE = 1, HIGH = 2, VERY HIGH = 3
- ♦ If 18-month or 5-year = LOW, $y = 0$ for probit model.

Types of Threat

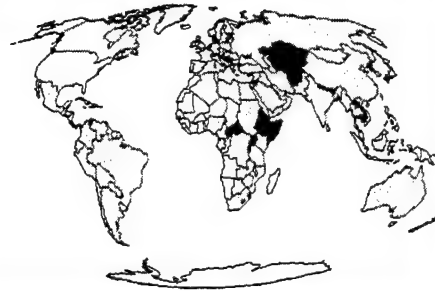
PRS Category	Jongman (1994)
LOW	Stable Social System
MODERATE	Political Tension Situation Serious Dispute Stage
HIGH	Lower Intensity Conflict
VERY HIGH	High Intensity Conflict

Sources of Conflict

- ♦ Homer-Dixon (1994)
 - greenhouse-induced climate change
 - stratospheric ozone depletion
 - degradation and loss of good agricultural land
 - degradation and removal of forests
 - depletion and pollution of fresh water supplies
 - depletion of fisheries

Independent Variables

- ♦ Population growth rates
 - 1990-95
 - 2000-05
- ♦ Population Density
- ♦ Population per hectare of arable land
- ♦ Total food aid deliveries, 1997
- ♦ Annual river flows from other countries
- ♦ % of GDP from agriculture
- ♦ Annual % change in forest and other wooded land
- ♦ Net commercial energy imports as a % of GDP
- ♦ Annual withdrawals of water as a percent of renewable sources



Probit and Logit Results

- ♦ % of GDP from agriculture and rate of deforestation most significant variables ($\alpha < 0.05$)
- ♦ Deforestation reduces probability of threat
- ♦ Likelihood ratio statistics highly significant
- ♦ Fit ~ 79%

Ordered Probit Results

- | <u>18-Month</u> | <u>5-Year</u> |
|--|--|
| ♦ Population Density and rate of deforestation significant ($\alpha < 0.05$) | ♦ Population Density and % of GDP from agriculture significant |
| ♦ Likelihood Ratio statistic highly significant | ♦ Significant likelihood ratio statistic |
| ♦ Fit ~ 54% | ♦ Fit ~ 56% |

High Threat Countries

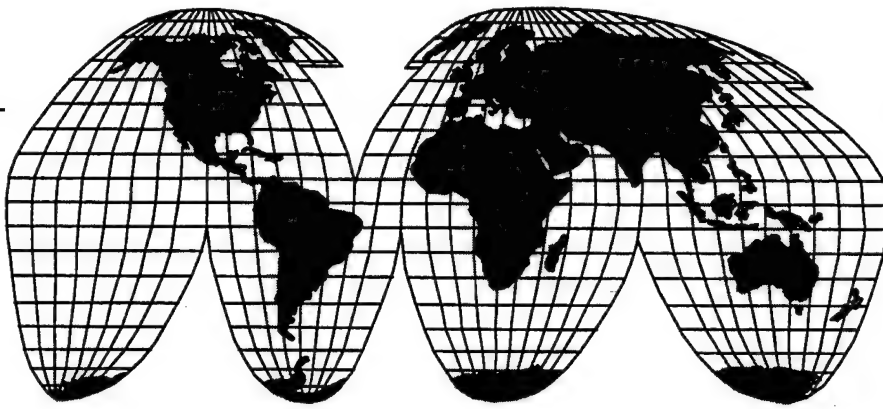
- | | |
|------------|------------|
| ♦ Angola | ♦ Uganda |
| ♦ Ethiopia | ♦ Cambodia |
| ♦ Ghana | ♦ Laos |
| ♦ Somalia | ♦ Myanmar |

Conclusions

- ♦ Models show weak relationship between environmental variables and conflict
- ♦ Must consider other variables as well
- ♦ Data on former Soviet Republics is poor
- ♦ In general environmental conditions may exacerbate existing conflicts

Policy Recommendations

- ♦ Should the U.S. Military become the world's garbage man?
- ♦ Data collection
- ♦ Satellite imagery
- ♦ Army Corps of Engineers



Capt William Casebeer

1998 Research Conference

Environmental Security in Southwest Asia

By Capt William D. Casebeer,
AFIT/CI (Univ. of California, San Diego)
(drenbill@earthlink.net)

Environmental Security: SWA

- Identify the most pressing environmental issues in the Middle East (water based)
- Three case studies:
 - Nile River Valley (Egypt, Sudan, Ethiopia)
 - The GAP Project (Turkey, Syria, Iraq)
 - Arab, Palestinian/Israeli Issues
- Impact on analysis of national security

Why Water?

- Basic human need
- Long term: most pressing environmental issue
 - Other issues pale by comparison...
 - Productive, habitable land = water *an a priori* necessity
- “Staying Power” (Genesis: Isaac and Gerar)
 - First documented “water war”

Case Study I: Nile River Valley

- Egypt: construction of Aswan Dam
 - Nasser: free Egypt from whims of upstream riparians
- Early planning: 1952...US, Britain, West Germany to finance
 - Demanded total Western commitment, entered arms purchasing agreement with Czechoslovakia

Nile River Valley

- Nasser nationalizes Suez Canal
 - Eisenhower intercedes to prevent British/French/Israeli intervention
- Nasser turns to Soviet Union--1958
- Sparked by water concerns, became matter of national prestige/image**
- Sudanese objected to final plan

Nile River Valley

- Submergence of Wadi Halfa--tens of thousands to be moved
- Demand change to '29 treaty (Egypt: 48 BCM/Y, Sudan: 4 BCM/Y)**
- '59: Egypt: 55.5 BCM, Sudan: 18.5 BCM
- No provision for upstream riparians**
- Attempted solution: Jonglei Diversion Project in Sudan...interrupted by SPLA**

Nile River Valley

- Lack of coordination: exacerbates water-related tensions
- Sadat: "...the only matter that could take Egypt to war again is water..."
- Bhoutrus-Ghali: "...the next war in the region will be over the waters of the Nile, not politics..."
- Egyptian HMC--plans for military intervention

Nile: Lessons

- Analysts: jury still out (pressures force cooperation or conflict?)
- Symbolic repercussions
- Often governed by out of date agreements
- Current negotiations need to include all affected actors
- "Solutions" can snowball

Turkey and the GAP

- Euphrates/Tigris headwaters in Turkey
- Crucial to Iraq, Syria, and Turkey
 - '74 Al Thawra incident
- Dam building by all nations, but...pales in comparison to GAP
- \$20 billion project, develop Euphrates first
- Breathe new life into SE Turkey

The GAP

- 66 power stations, 68 irrigation projects, 80 dams (massive Ataturk Dam in '92)
- Already source of tensions: '90--Syria experiences crop losses, reduced electricity production; Iraq--crop losses
- Pessimistic: cost Syria 40%, Iraq 90%
- Kurds: added fuel to rebellion
- Turkey uses "water weapon" to persuade Syria to decrease support for PKK, KDP...

Turkey and the GAP

- RAND analysis: high potential for conflict
- Similar lessons as first case study:
 - Thorny issues
 - Empirically does cause hot conflicts
 - Can surface otherwise submerged ethnic tensions
 - Proximate cause/primary cause?...difficult to discern

Israel, the Arabs, and the PLO

- Israel draws majority of water from sources in land occupied since '67 war
- Long history of water related tensions:
 - Spring, '51: shooting in DMZ w/Syria (draining of swamps to divert Jordan river water to Negev)
 - Sept., '53: more shootings in the DMZ
 - Nov., '64: Arab and Israeli patrols exchange fire (Dan river sovereignty)

Israel, the Arabs, and the PLO

- And so it goes...
 - July, '66: IAF bombs Syrian constructed vehicles, engages SAF at Banias (Jordan river diversion)
 - Aug., '66: Israel/Syria exchange fire (Lake Tiberias)
 - April, '67: firefight in DMZ (caused by Arab attempts at water diversion)
- Israeli victory in '67 war: expanded supplies by 50%

Israel, the Arabs, and the PLO

- Emergence of PLO complicates matters
- West Bank, Golan Heights: almost 2/3 of Israeli water issues from here
- "Water Supervision" rights
- Series of open-ended case studies
- Problematic: implicit/explicit?
 - Rabin: "The uninterrupted supply of water to the nation is more important than peace..."

Whence water?

- Naff: "...highly symbolic, contagious, aggregated, intense, salient, complicated, zero-sum, power and prestige packed issue, highly prone to conflict and extremely difficult to resolve..."
- Obviously a national security issue
- Treat it as such...analytically and in policy formulation/implementation

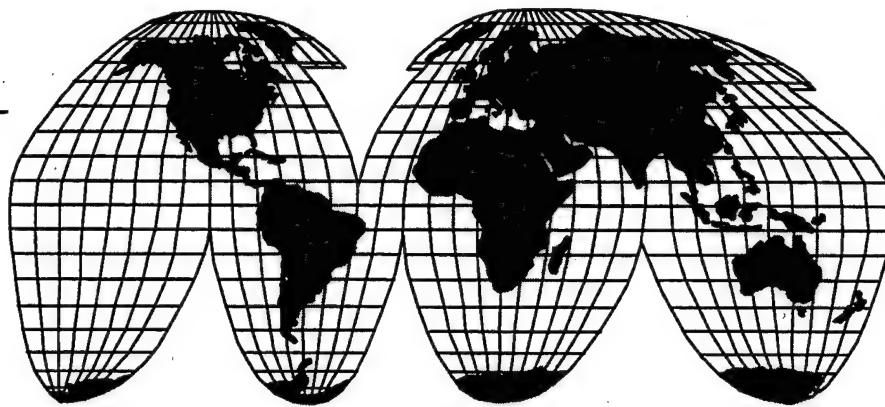
Recommendations

- Raise awareness of implicit water concerns/issues
- Analysts: adopt methodologies that explicitly factor in environmental issues (Thomas Homer-Dixon)
- Consider shifting priorities: Israel, Egypt-- #1 and #2 foreign aid recipients...H2O?
- Context sensitivity necessary
- Multifaceted effort (military involvement?)

Conclusion

- "...as each riparian perceives its legitimate 'hydraulic imperatives' threatened or frustrated...water-generated conflicts-- which could easily engulf the entire region-- could well be the inevitable outcome" (Naff)
- "Opportunity for cooperation" (Hillel)
- Stay tuned...

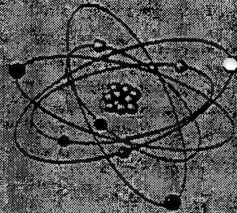
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Dr. Charles Krupnick

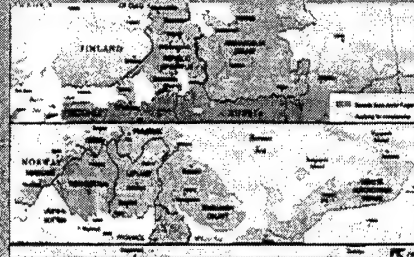
1998 Research Conference

Decommissioned Russian Submarines and International Cooperation



RADWASTE Problems in Northwest Russia

The Arctic Region



Decommissioned Russian Submarines - OTSTOY

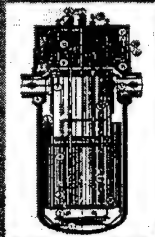


Submarine Dismantlement



Spent Fuel Assemblies

- Most Russian submarines have two reactors
- Each reactor contains about 250 fuel assemblies
- Each fuel assembly is about 2.5 feet long and 2-3 inches square
- 50,000 fuel assemblies remain on submarines
- 30,000 are stored in Northwest Russia



Spent Fuel Storage Andreeva Bay



Lepse Project

- *Lepse* is a mid-sized service ship with 634 fuel assemblies stored onboard
- A total of 750,000 curies of radioactivity
- Many fuel assemblies are damaged as a result of a reactor accident on the icebreaker *Lenin*



Spent Fuel Concerns

- Localized radiation hazard
- Environmental contamination potential to the Arctic region
- Possible proliferation of weapons usable nuclear material

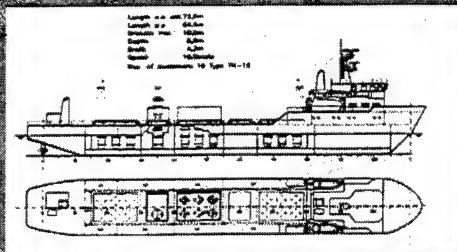
Why the Russian Backlog??

- Technical problems
- Confused lines of authority
- Relatively low priority of the Russian government
- Not enough funding

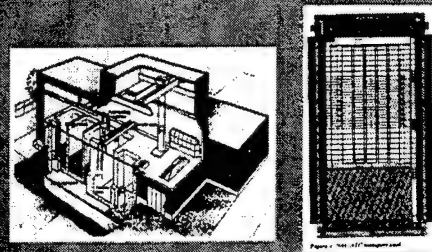
The Defueling Chain

- Defueling ships
- Interim storage in Northwest Russia or at the Mayak reprocessing facility
- Transport to Mayak
- Reliable reprocessing at Mayak
- Permanent geological storage

Defueling Ships



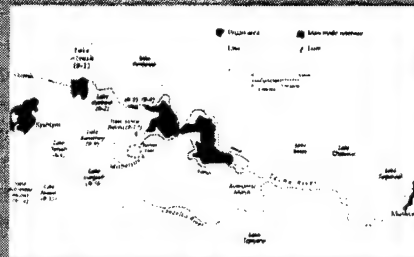
Spent Fuel Interim Storage



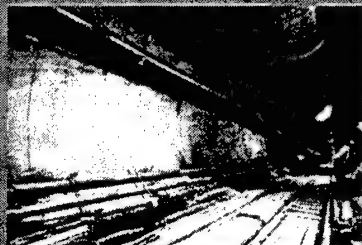
Rail Transport to Mayak



Mayak/Chelyabinsk Reprocessing Facility



Permanent Geological Storage



International Cooperation

- Motives
 - Fear of nuclear accident
 - Business for Western nuclear companies
 - Possibility of developing new technology
 - Global environmental concern
 - To help a country in need

Problems with International Cooperation

- Other nuclear priorities and not much money
- Doing business with Russia is difficult
 - Corruption
 - Taxation
 - Liability
- Political and security concerns
 - Helping the Russian Navy is controversial
 - Giving up proprietary industrial information
 - Nikitin, charged with spying for Bellona

Recent Progress

- Russian-Norwegian Framework Agreement of May 1998
- Radioactive liquid waste purification projects at Murmansk and Bolshoi Kamen almost on line
- Lepse Project should move forward shortly
- US CTR funds now used for Russian SSBN dismantlement, including to pay shipyard workers
- Russian defueling process to be streamlined with MINATOM replacing the Russian Navy

Arctic Environmental Cooperation in Theory

- According to Oran Young of Dartmouth College, cooperation on environmental and resource issues is usually a combination of three factors:
 - Interest
 - Power
 - Knowledge

A Process Model for Environmental Collaboration

- Barbara Gray of Penn State and the Darden School at University of Virginia, identified three phases of environmental collaboration
 - Problem setting
 - Direction setting
 - Implementation

Problem Setting

- Definition of the problem
- Commitment to collaborate
- Identification of stakeholders

Direction Setting

- Agenda setting
- Joint information search
- Exploring options
- Reaching agreement

Implementation

- Just getting the job done
- Dealing with constituencies
- Monitoring the agreement to ensure compliance

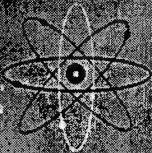
Problem Setting

- NGOs identified the problem to the world
 - Greenpeace
 - Bellona Foundation
 - Arctic Council/AEPS as a transition organization: an IGO, but with NGO and epistemic community involvement



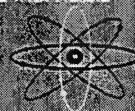
Direction Setting

- What "can" be done is separated from what "should" be done
- The domain of national governments and IGOs, not NGOs
 - Norway, Sweden, Finland, European Commission, United States
 - Barents Council and NEFCO
 - IAEA Contact Group (CEG)
 - Rule-making regimes such as the IAEA, Vienna Convention on liability, London Convention 1992 on ocean dumping



Implementation

- National governments and multinational corporations
 - Nuclear expertise is held by companies with long-standing ties with governments
 - Companies often act in alliance to share risk and contacts, both in the West and with Russia

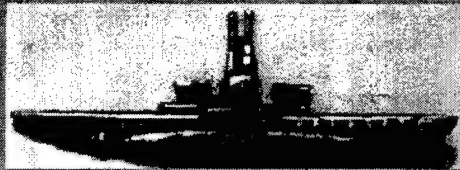


Keys to Collaboration on Russian Submarine Spent Fuel

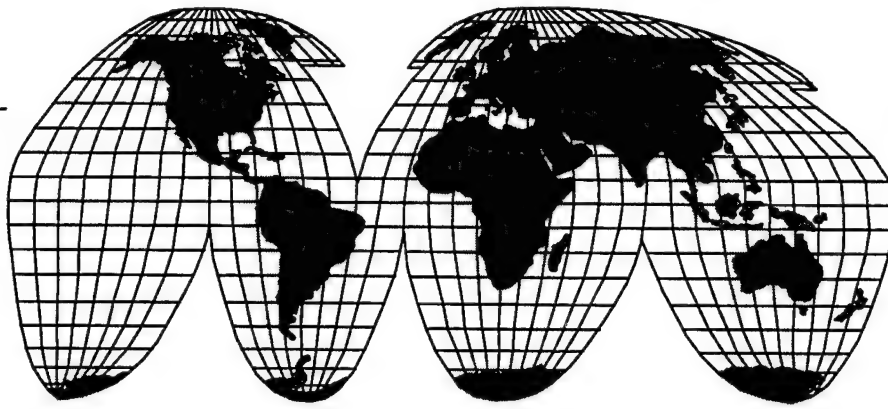
- Norway as the "Convener," a stakeholder crucial to sustaining interest, creating cooperative mechanisms, and a major funding source
- IAEA Contact Group as a "Pivot Regime," connected to national governments, other IGOs, and multinational corporations
- Corporate profit motive provides a "Push" for Western governments to fund Russian projects



Spasiba



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Lt Col Hal Bidlack, Ph.D.

1998 Research Conference

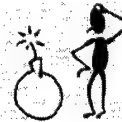


Interagency Cooperation on Environmental Security

Lt Col Hal Bidlack, Ph.D.
Department of Political Science
US Air Force Academy

Environmental Security

- What is Security?
- What is National Security?
- What is Environmental Security?



Organizational Behavior

- How do you Promote Cooperation?
- How is Power a Factor in Cooperation?



Models for Organizations and Decisions

- Rational Actor
- Bureaucratic
- Decision Process/Organized Anarchy
- Political Power



The NSC and Me

- The *Fires*
- The White House Response
- Other Agencies

The Problems and Challenges of Cooperation in Government

- Why is it Hard to get People to Cooperate?
 - Taskie and Tasker
- Agency Views and Norms
 - "It's Our Job"
 - "It's *Not* Our Job"

Solution?



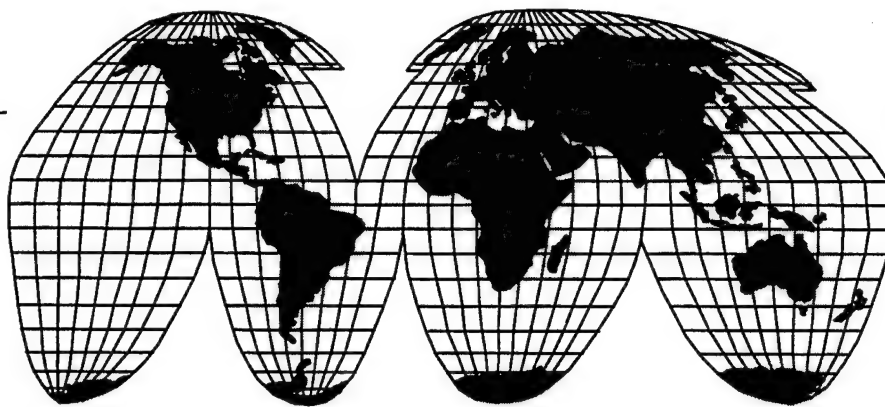
Could It Be ***I*WGs?**

Should It Be ***I*WGs?**

Findings and Conclusions:

The Example of Fires

- Environmental Security is best run by the NSC
- In crisis situations, and NSC IWG should manage the problem
- The NSC can Command and Task
- The NSC can be an "Honest Broker"
- These Results are ***Generalizable***



Maj Matt Long

1998 Research Conference

Emerging Security Arrangements in Southeast Asia

Major Matt Long
Instructor, DFPS
USAF Academy, CO

Project Goals

- Identify
- account for support of
- assess influence of emerging security arrangements that encourage maintenance of security, stability, and economic prosperity in Southeast Asia

Two current SE Asian security mechanisms

- "San Francisco" system of US bilateral security ties to regional states
- multilateral cooperative forum called the ASEAN Regional Forum (ARF)

Thesis

While ARF serves a useful function as a political consultative body aimed toward preventive diplomacy and construction of confidence building measures,

SE Asian security will still hinge upon decisions made in Tokyo, Beijing, and Washington. The San Francisco system still plays a crucial role in the resolution of conflict in SE Asia.

Three sections of project

- Ascertain SE Asian security considerations; roles and interests of great powers
- identify potential regional conflict scenarios, particularly South China Sea
- make specific policy recommendations for US national security policy toward SE Asia

Southeast Asian security considerations

- Continuing economic growth; may lead to increased political legitimacy and domestic political stability
- advancing recognition of sovereignty and territorial integrity

Southeast Asian security considerations

- making further progress in regional security integration (among and outside ASEAN)
- managing relations w/China, keeping the United States militarily and politically engaged in the region, and dampening potential Japanese political and military ambitions

Potential threats to SE Asia's security considerations

- Effects of the Asian economic crisis on domestic and regional political stability
- impact of the Asian economic crisis on regional security
- a perceived withdrawal of US interests and roles in region
- an increase in Japanese military strength commensurate with its economic power

Potential threats to SE Asia's security considerations

- continued political instability in Cambodia
- lack of an appropriate security mechanism beyond the US regional military presence and its bilateral security arrangements to engage China over Taiwan, or to engage North Korea on nuclear weapons acquisition and delivery systems

Impact of Asian economic crisis on domestic and regional political stability

- Economic growth underpinned region's related political stability and social cohesion
- soft authoritarian regimes remained in power by garnering political legitimacy from continued socio-economic development
- prosperity appeared to suppress domestic conflict

Impact of Asian economic crisis on domestic and regional political stability

- Asian economic crisis may serve to potentially undermine socio-economic confidence in soft authoritarian regimes
- increased domestic and regional political instability???
- Indonesia -- political transition from Suharto to Habibie; riots continue; what's next?

Impact of Asian economic crisis on domestic and regional political stability

- Malaysia's current political succession issue between Mahathir and Anwar; Mahathir institutes capital controls
- Thailand appears to be successfully weathering the political succession issue

Impact of Asian economic crisis on regional security: six factors

- Slowed ASEAN state defense spending
- continued extra-regional great power defense spending
- increased dependence of ASEAN states on the great powers
- ASEAN states seek increased interdependence

Impact of Asian economic crisis on regional security: six factors

- Crisis may lead to mature arms purchases by ASEAN states?
- limited regional military cooperation with United States

Security interests and roles performed by great powers -- China

- Possesses strong regional influence
- may increase influence by
 - maintaining economic growth through increased domestic expansion and by forgoing currency devaluation
 - continuing military modernization, specifically pursuit of a blue water navy

Security interests and roles performed by great powers -- China

- pursuing multilateral security forum such as ARF that do NOT seek to develop conflict resolution measures
- maintaining strategy of strategic partnerships w/other great powers while seeking to place obstacles in relationships between other great powers (US-Japan security relationship)

Security interests and roles performed by great powers -- Japan

- Important regional actor finds itself in precarious position
- domestic political groups seek to keep economy relatively closed to exports
- economic paralysis -- trillion \$ bank debt results in inability to make loans

Security interests and roles performed by great powers -- Japan

- political paralysis -- inability to make policy favorable to all vested interests
- bottom line -- Japanese influence may wane relative to that of China and US
- Diet passed \$517 billion package to recapitalize banking system
- Japan Export-Import Bank will extend \$30 billion in credits to SE Asian states

Security interests and roles performed by great powers -- the United States

- US policymakers may expand influence for better or for worse
- SE Asian political leaders still clamor for US regional involvement
- US policymakers don't always recognize opportunities to positively increase influence

Security interests and roles performed by great powers -- the United States

- pluralist nature of American democracy often opposes chance to quickly capitalize on opportunities

Security interests and roles performed by great powers -- the United States

- America may see a SE Asian backlash from the perception that US does not seem interested in economic recovery measures other than those backed by International Monetary Fund
- US policymakers may alienate Japanese policymakers by calling for further policies to address economic crisis -- call for continued market openings; US-China strategic partnership

Security interests and roles performed by great powers -- the United States

- Positive developments
- Congress authorized \$18 billion additional IMF funding
- Pres Clinton's current trip to Japan and South Korea demonstrates interest
- SE Asian states seek US investment, both economically and militarily (Singaporean military support)

Potential Sources of Conflict in Southeast Asia

- Numerous potential sources could result from economic crisis: illegal immigration, regime instability, latent historical and ethnic problems, and territorial disputes
- This project focuses upon territorial and resource disputes in the South China Sea

South China Sea: a potential conflict scenario?

- Brunei, China, Malaysia, the Philippines, Taiwan, and Vietnam make claims upon all or parts of the Spratly Islands
- Region may be rich in oil and natural gas deposits, serves as an abundant fishing ground, and geographically sits astride important sea lanes of communication

South China Sea: a potential conflict scenario?

- China makes claims to all of the Spratlys; has used force to settle claims (1988 vs Vietnam over Paracels and 1995 vs Philippines over Mischief Reef)
- 1992 National People's Congress declares Spratlys as Chinese territory and authorizes military intervention to enforce claims

South China Sea: a potential conflict scenario?

- Do these events signify a Chinese political perception of a return to a natural sphere of influence?

South China Sea: a potential conflict scenario? Factors that may lessen potential for violent conflict

- Multilateral cooperative security measures
- began with 1990 Indonesian workshops (talks don't discuss sovereignty, only cooperation on technical issues)

South China Sea: a potential conflict scenario? Factors that may lessen potential for violent conflict

- multilateralism continued with 1992 ASEAN Declaration on South China Sea (document urges restraint on all claimants)
- In 1995, Beijing began to shelve all sovereignty disputes and sought to promote bilateral joint development of Spratlys with various claimants

South China Sea: a potential conflict scenario? Factors that may lessen potential for violent conflict

- Chinese military realization that its navy cannot sustain a prolonged military operation in South China Sea
- July 1995, US Asst SecDef Joseph Nye, Jr. states that US will provide escort services in South China Sea in any conflict that interferes with freedom of navigation; bolstered US position

South China Sea: a potential conflict scenario? Factors that may lessen potential for violent conflict

- Chinese prioritization of national security objectives may place Spratlys sovereignty dispute on back-burner behind objectives of continued economic growth, successful July 1997 reacquisition of Hong Kong, the 1999 realization of Macau, and the future reunification of Taiwan w/mainland

Assessing security mechanisms designed to minimize conflict scenarios: ARF

- Despite a benign regional security environment, SE Asian states remain vulnerable to great power interests
- SE Asian political leaderships don't want their national interests subsumed to great powers or organizations such as APEC, World Bank, IMF, or the San Francisco system of US military alliances

Assessing security mechanisms designed to minimize conflict scenarios: ARF

- In recognition of this vulnerability and to operationalize SE Asian security considerations, ASEAN member states (together with their dialogue partners and invited guests) forged the multilateral political security consultative forum known as ARF

Purposes behind ARF

- Attempts to prevent tensions and potential conflict from taking on a military dimension
- Works through military confidence building and transparency measures

Purposes of ARF

- seeks to build a security regime where states still perceive each other as threats, but engage in arrangements to reduce the fear of threats
- seeks to delegitimize the use of military force to resolve disputes

Purposes of ARF

- may be interpreted as a political mechanism whose function entails an engagement of the great powers in an effort to deflect the rise of new regional hegemony (China and Japan) while responding to an anticipated slow US political and military withdrawal
- continued ASEAN independence through interdependence

Toothless by Design Security functions ARF seeks to avoid:

- ARF member states purposefully designed and continue to shape ARF to avoid direct conflict resolution measures
- not designed to serve as a collective security mechanism where all states agree to coalesce in response to the use of military force against a member
- ARF is "toothless by design"

ARF limitations that make it "toothless"

- ASEAN diplomatic history; a culture of conflict avoidance
- forum decisions based on consensus
- preferential treatment to organization's most reluctant member; represents a built-in breaking mechanism to avoid conflict

ARF limitations that make it "toothless"

- Fails to include political entities where the potential for conflict remains most acute
- Member states excluded Taiwan, North Korea, and Pakistan from the forum due to great power interests (Pakistan may be the exception)

ARF limitations that make it "toothless"

- Rapid pace of political and economic change
- economic and political developments resulting from the Asian economic crisis may force ARF to take a back seat to economic recovery efforts

ARF limitations that make it "toothless"

- Political developments may slow regional integration and the gradual military transition from maintenance of domestic political stabilization to territorial defense and power projection

ARF limitations that make it "toothless"

- Great power national interests
 - China, Japan, and the US do not appear willing to allow ARF to acquire the political will or legitimacy required to rapidly assemble a multinational military security force in the event of a regional emergency

Assessing the San Francisco system of US bilateral security alliances in Asia

- System of defense arrangements traces its origins back to agreements made during the early 1950s with Japan, the Philippines, South Korea, Australia, and New Zealand (early cold war era)
- Purpose: seeks to maintain peace and stability in East Asia

San Francisco system's three external functions

- Establishes foundation for peace and stability through strategies of preventive defense and military deterrence
- promotes potential for increased economic development and prosperity
- advances economic, political, and military cooperation through regional integration

Preventive defense and military deterrence

- Adds an increased cost factor to the military calculus of a potentially hostile neighbor
- serves a balancing role between China and Japan

Deterrence lays foundation for increased commercial interests

- Bilateral alliance structure enhances opportunity for East Asian policymakers to channel resources (financial and manpower) otherwise earmarked for military security purposes into non-military, commercial ventures
- may enhance stability -- a necessary precondition for economic development

Economic development and prosperity may help advance regional cooperation through integration

- Prosperity may create conditions both favorable to and undesirable for internal and external political stability
- US military presence serves to help maintain the regional status quo
- system assists in creation of a favorable atmosphere for generating greater interstate trust

Potential problems for continuance of San Francisco system

- Economic tensions exist between US and East Asian states (increasing trade deficits politically sustainable?)
- US federal budget deficit; govt must rely on foreign investors who willingly purchase US debt-servicing instruments -- increased vulnerability to reliance upon East Asian investors???

Recommendations for US National Security Policy toward Southeast Asia

- In short, the US must provide leadership during this period of structural transition (post-cold war era and economic crisis)

1. Attempt to contain economic crisis before it further disrupts prosperity and political stability

- Provide IMF funding (accomplished)
- offer Export-Import Bank credits to enable states to purchase resources required to in part export their economies toward recovery
- applaud Japanese and Chinese efforts at providing economic assistance to Southeast Asian states

1. Attempt to contain economic crisis before it further disrupts prosperity and political stability

- Contribute humanitarian assistance in the form of food aid and other measures to help quell domestic political dissent; would show that US cares about its allies and friends
- help reform international economic architecture to slow sudden and massive capital flows (Tobin tax?)

2. US political leaders should bolster American military operations funding in East Asia in the short term

- Boost short term funding of operational exercises in SE Asia to enhance interoperability and increase political influence
- provide short term financial relief for Japan and South Korea by boosting US share of host nation support costs; enhance US image in eyes of important allies

2. US political leaders should bolster American military operations funding in East Asia in the short term

- Continue to seek base access agreements with SE Asian states
- "places, not bases" policy will not work without solid agreements before any crisis situation arises

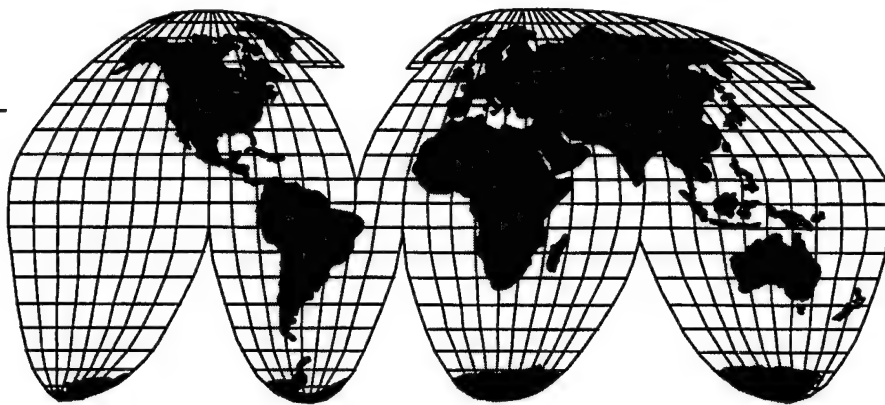
Other policy recommendations

- US political leaders should attempt to modify San Francisco system in order to demonstrate America's continued commitment to East Asia (troop strength and location modifications; process already started with Japan)

Other policy recommendations

Continue to politically engage Chinese leadership; however, base policymaking on actual Chinese behavior -- not promises; make reciprocity the norm

stay the course in South China Sea policy by maintaining neutral stance on sovereignty issue while continuing to provide deterrent function



Maj Gregory Cate

1998 Research Conference

Privatization at Newark AFB and the effects of Privatization on Air Force Missions

AU/ACSC/048/1998-04

REPAIRS VS. NEW WEAPONS

*One has to remember that since no state ever
has more money than it needs, the high cost of
maintaining depots will necessarily cut into
expenditure on the armament and the size of the
army*

— Carl Von Clausewitz

OVERVIEW

- Background
- Funding Issues
- Mission Impact Findings
- Conclusion -- Lesson Learned
 - Air Force Audit Agency (AFAA) August 1998 Report
- Recommendations

Background

Why Newark AFB?

BACKGROUND

- Dec 95 Newark AFB -- First "PIP"
(Privatization-in-Place)
- Aerospace Guidance and Metrology Center
(AGMC) became Boeing Guidance
Metrology Center (BGMC)
- Test bed for Lessons Learned and Mission
Impact

Funding Issues

Nobody Agrees

RESULTS OF AFMC STUDIES COMPARING ESTIMATED
FISCAL YEAR 1997 ORGANIC TO PIP COSTS FOR SAME
WORKLOAD (DOLLARS IN MILLIONS)

AFMC COST ANALYSIS		
OPERATIONS	PRE-AWARD	INTERIM
• AGMC DEPOT	\$99.8M	\$84.2M
• BGMC DEPOT	\$94.8M	\$98.3M
• DIFFERENCE	\$5.0M	-14.1M

RESULTS OF BGMC STUDIES COMPARING ESTIMATED
FISCAL YEAR 1997 ORGANIC TO PIP COSTS FOR SAME
WORKLOAD (DOLLARS IN MILLIONS)

	AGMC COSTS	BGMC COSTS
• UNITS REPAIR	5480	6950
• O & M(a)	\$70.5M	\$61.1M
• AWARD FEE(b)	N/A	\$6.1M
• TOTAL	\$70.5M	\$67.2M
• INFLATION 2YRS @ 2.5% (c)	\$3.5M	N/A
• PROJECTED COSTS (1997)	\$74.0M	\$67.2M

(a) O&M - Operations and Maintenance
(b) Award Fee - Applies to BGMC only
(c) Inflation - Projected inflation rate added to AGMC cost to account for FY95 - FY97

Mission Impact Findings

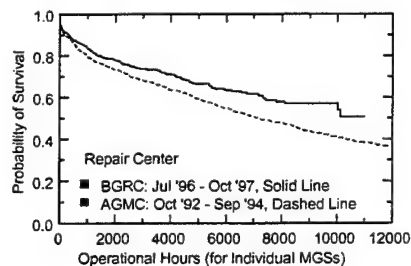
Mission Is Being Accomplished

Comparison of Units per Month and Turnaround times (TAT) for ICBM MGSs for both BGMC and AGMC

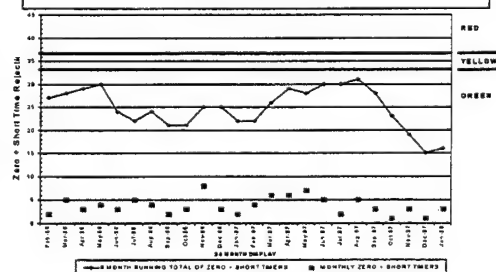
ORG	UNITS PER MONTH	TAT PK(a)	TAT MM (b) III
FY 95 AGMC	29 UNITS	77 days	44 days
FY 97 BGMC	32 UNITS	56 days	35 days

PK - Peacekeeper Weapon system
MM - Minuteman Weapon system

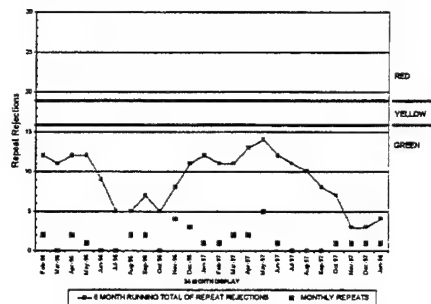
Survivor Rates: BGMC- vs AGMC- Repaired MGSs



MGS ZERO & SHORT TIME REJECTIONS



MGS REPEAT REJECTIONS



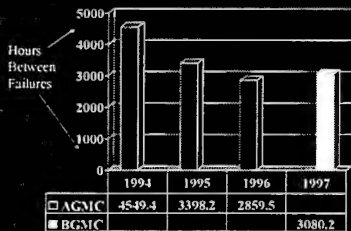
Comparison of Units per Month for aircraft navigational systems for both BGMC and AGMC

UNITS PER MONTH

FY 95 AGMC 426 UNITS
FY 97 BGMC 546 UNITS

(Better than scheduled delivery by 11%)

REMIS Summary Mean Failure Rates For The 8 Aircraft Components Selected At Random



Conclusion - Lessons Learned

Unlimited Resources Help Schedules

Conclusion - Lessons Learned

- Contractor met mission requirements by being allowed to conduct repairs without regard to material cost or usage
- Cost Plus Award Fee Contract led to waste because emphasis was on meeting schedule
Award-fee rewarded BGMC for on-time repairs not cost effectiveness

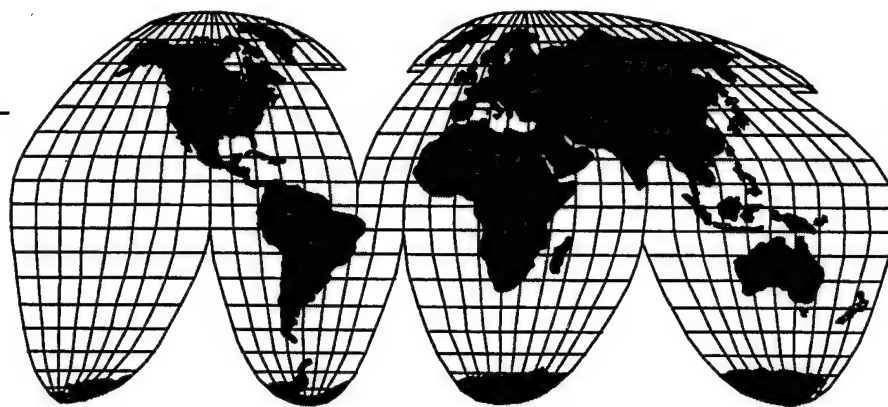
AFAA August 1998 Report

- Material usage rates between AGMC and BGMC "inconclusive"
- "Uncontrolled Access to Government inventories," AFAA Aug 98
 - Open account on spare parts from Ogden ALC and Oklahoma ALC
 - No accountability for material usage
 - Established procedures not followed

Recommendations

- Cost Plus Award Fee (CPAF)?
- Fixed Price Award Fee (FPAF)
- Multiple Incentives
 - Process improvements
 - Cost Savings
 - Schedule
 - Quality
 - Responsiveness
- Control Government Furnished Material

Questions?



Capt William C. Thomas
Second Lt Jeremy D. Cukierman

1998 Research Conference

THE NEXT PEACE OPERATION

U.S. AIR FORCE ISSUES AND PERSPECTIVES

Captain William C. Thomas
Second Lieutenant Jeremy D. Cukierman

Overview

What military issues and flashpoints will likely predominate in the next peace operation?

- Doctrine and Metrics
- Education and Training
- Impact on Military Readiness
- Recommendations

Methodology

- Historical Review
- Doctrine and Literature Review
- Field Visits
 - Combined Air Operations Center, Vicenza, Italy
 - Task Force Eagle and 401st EABG, Tuzla, Bosnia-Herzegovina
- Interviews at DoD, DoS, UN

Doctrine and Metrics

- Joint, Allied, and Service Perspectives
- Principles of Peace Operations
- Measures of Effectiveness

Joint, Allied, and Service Perspectives

- **Joint Pub 3-07.3** *Joint Tactics, Techniques, and Procedures for Peacekeeping Operations*
- *JTF Commander's Handbook for Peace Operations*
- **Royal Army FM 5** *Wider Peacekeeping*
- **FM 100-23** *Peace Operations*
- **FM 100-20** *Stability and Support Operations*
- **AFDD 2-3** *Military Operations Other Than War*

Principles of Peace Operations

- Impartiality
- Consent
- Restraint
- Unity of Effort
- Perseverance
- Objective



Critical Issues

- UN Authorization & Regional Organizations
- Rules of Engagement
- Displaced Persons and Refugees
- De-mining
- Civil-Military Relations
- Normalization
- Media
- Force Protection
- Personnel Policies

Measures of Effectiveness

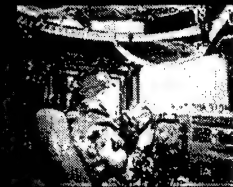
- Mandate Performance
- Facilitating Conflict Resolution
- Conflict Containment
- Limiting Casualties

Education and Training

- Educational Opportunities
- Training Objectives

Impact on Military Readiness

- Negative Impact on Forces
- Positive Impact on Forces



Negative Impact on Forces

- Maneuver units
- Combat aircrews
- Mission planners
- Morale



Positive Impact on Forces

- Actual experience vs simulation
- Support personnel
- Professional development



Maintaining Readiness

- Basic Skills Maintenance
- Post-mission Refresher Training
- Use Forces for their Primary Function
- Common Equipment

Recommendations

- Operations
- Organization
- Personnel Issues
- Education and Training

Recommendations

- The most powerful contribution of airpower is likely to be air mobility.
- Be prepared to rapidly redeploy personnel and equipment to MTW.

Recommendations

- Do not designate Air Force units for peace support operations.
- Determine the best mix of forces, rather than using all available assets.

Recommendations

- Use individual rotation policies when appropriate.
- Increase the use of Reserve and Guard.
- Take steps to minimize adverse impact on readiness.

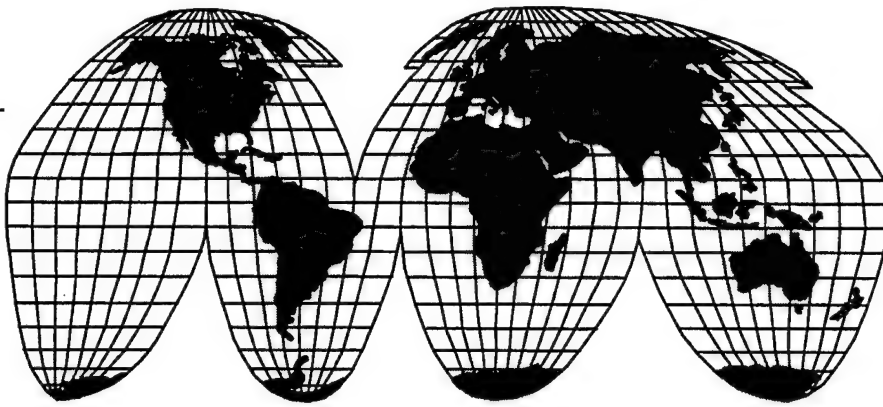
Conclusion

- US doctrine is not perfect, but Air Force doctrine is adequate
- Education is more critical than training
- Impact on combat readiness does not have to be negative

THE NEXT PEACE OPERATION

**U.S. AIR FORCE
ISSUES AND PERSPECTIVES**

Captain William C. Thomas
Second Lieutenant Jeremy D. Cukierman



Captain Sean Cantrell

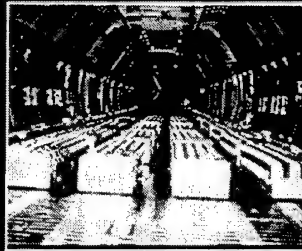
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Integrated Intelligence Operations: A Prerequisite To Force Protection

SEAN J. CANTRELL
Captain, U.S. AIR FORCE

INSS CONFERENCE
20 November 1998

The Challenge

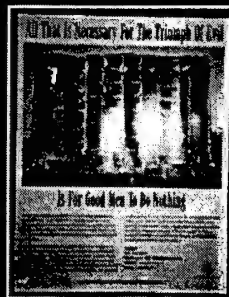


- Khobar Towers
- JV 2010 and The Air Force
- Force Protection

Intelligence and Security Following The Khobar Attack

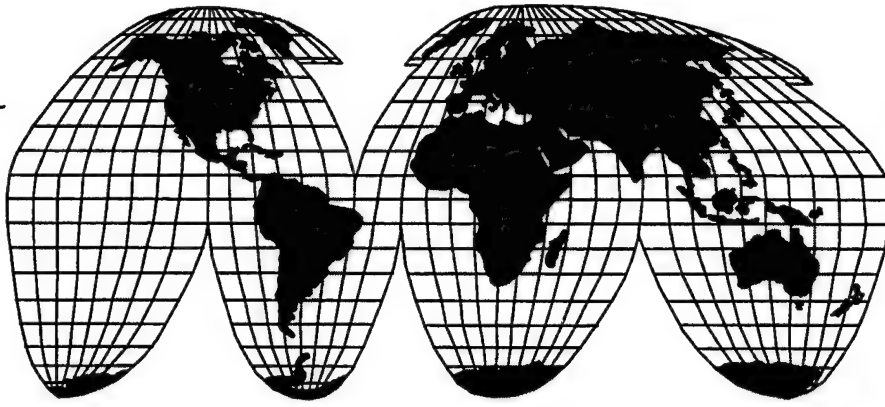
- Downing Assessment
 - UK Model
- Air Force Efforts
- U.S. Intelligence Community
- Navy Model

Integrated Intelligence: A Culmination



- Integrated USAF Counterintelligence
- The Air Force A.T.T.A.C.K.

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Col (Sel) James E. Moschgat

1998 Research Conference



Coproduction In The Middle East: Engagement or Entanglement?

Colonel (Sel) James E. Moschgat

National Defense Fellow

The Washington Institute for Near East Policy
Washington, D.C.



Coproduction In The Middle East: Engagement or Entanglement?

Overview

- The Project
- Coproduction From WWII To The Present
- The Weapons
- Turkey's F-16 Program
- Egypt and the M1A1
- Conclusions and Recommendations



Coproduction In The Middle East: Engagement or Entanglement?

The Project

- Genesis
 - A fighter pilot's perspective
- Goals
 - Shed light on a complex process
 - Explore impact on U.S. foreign policy
 - Advocate ways to improve viability & effectiveness



Coproduction In The Middle East: Engagement or Entanglement?

Background

- Joint manufacture by two or more parties of a weapons system originally developed by one country
 - As simple as a rifle or as complex as a destroyer
- One of many security assistance tools
- Governed by Arms Export Control Act of 1976
- "Potential Key Element" of U.S. foreign policy



Coproduction In The Middle East: Engagement or Entanglement?

Background

- Post-WWII focus in Europe and Japan
- Few Middle East ventures
- Always a "hot or cold" proposition
- NATO's F-16 program set the standard
- Politics transformed the Middle East arms market
 - Wars of attrition created demand
 - 1974 OPEC oil embargo
 - 1979 Iranian Revolution
 - 1979 Camp David Accords



Coproduction In The Middle East: Engagement or Entanglement?

Background

- Coproduction became lucrative in the 1980s/90s
 - Militaries downsized worldwide
 - Defense expenditures plummeted
 - Weapons prices soared
 - Weapons market dwindled & economies turned sour
 - Surplus arms flooded the market
 - U.S. foreign aid often in doubt
 - Middle East unrest a constant
 - Gulf War validated U.S. weapons superiority



Coproduction In The Middle East: Engagement or Entanglement?

U.S. Strategic Objectives

- Lasting Arab/Israeli peace
- Maintain steadfast commitment to Israeli security
- Assure Gulf stability & access to oil reserves
- Combat terrorism
- Fair access for American business interests
- Promote
 - Open political & economic systems
 - Respect for human rights
 - Rule of law



Coproduction In The Middle East: Engagement or Entanglement?

Department of Defense Objectives

- Offer cost effective military equipment
- Improve U.S./allied force compatibility
- Enhance interoperability
- Foster military & industrial capabilities
- Establish or broaden the mutual support base



Coproduction In The Middle East: Engagement or Entanglement?

Why Coproduction?

- Rapidly gain modern manufacturing techniques
- Force technological advancement
- Develop industries that do not exist
- Gain military and economic autonomy
- Retain capital spent for arms expenditures
- Spur economy, education, and lower unemployment
- Promote national/international prestige



Coproduction In The Middle East: Engagement or Entanglement?

Who Elects Coproduction?

- Richest Middle East nations will buy weapons outright
- Poorest cannot bear coproduction's fiscal burden
- Only six Middle East nations are likely coproducers
 - Turkey
 - Egypt
 - Israel
 - Iran
 - Iraq
 - Libya



Coproduction In The Middle East: Engagement or Entanglement?

The Weapons Systems

- Conceived in the 60s, designed in the 70s, built in the 80s
- Upgrade potential designed into each
- Not the weapons grandpa fought with in "The Big One"
- Complex, integrated combination of hardware and software



Coproduction In The Middle East: Engagement or Entanglement?

Turkey's F-16 Program: Peace Onyx I & II

- Began in 1983 and scheduled through 1999
- Run of 240 Block 30/40/50 F-16s @ \$6.8 billion
 - Similar in performance to U.S. cousins
 - U.S. controls critical technologies
 - Cost is @ 10-20% greater than U.S. aircraft
 - Turkey produces 95% of the aircraft
 - Will possess third largest F-16 fleet
- Produced 46 F-16s for Egypt



Coproduction In The Middle East: Engagement or Entanglement?

Turkey's F-16 Program: Peace Onyx I & II

- Dynamics of a successful coproduction program
 - Innovative partnership
 - Risk and profit sharing
 - Adopted a U.S. management style
 - Walk-before-you-run manufacturing
 - Production on time and on schedule
 - No adverse technology transfers
 - Superior workmanship and aircraft quality
- Result: an enduring partnership beyond the F-16
- Program never used for political leverage



Coproduction In The Middle East: Engagement or Entanglement?

Egypt's M1A1 Program

- Began in 1991 and scheduled through Dec 1998
- \$3.2 billion to coproduce and procure 555 tanks
 - Egypt shouldered majority of up-front costs
- Planned to become a major regional production hub
- Permission to produce more denied for financial reasons



Coproduction In The Middle East: Engagement or Entanglement?

Egypt's M1A1 Program

- Program successes
 - Gained state of the art facility
 - Learned U.S. management style
 - High quality, on time, on schedule production
 - Created skilled labor pool
 - No adverse technology transfers
- Program detractors
 - Added \$820 million to the cost of providing 555 tanks
 - No self-sufficiency: only produces 19% of the tank
 - Economic ills and political unrest still prevalent
- Never used for political leverage



Coproduction In The Middle East: Engagement or Entanglement?

Egypt's M1A1 Program

- Why the tarnished image?
 - Politics changed the face of the program
 - Egyptians could not fund the tank project and others
 - Egypt's expectations exceeded the agreement
 - No binding partnership to work for success
 - Plans for the plant are flimsy and shortsighted



Coproduction In The Middle East: Engagement or Entanglement?

Conclusions

- Coproduction is a viable foreign policy tool
 - Not geared to gain immediate leverage
 - Can be used for leverage, but only in extreme cases
 - Designed to build trust and foster relationships
 - One strand in an engagement/enlargement strategy



Coproduction In The Middle East: Engagement or Entanglement?

Conclusions (cont)

- U.S. trades technology & assistance for strategic access
- Coproduction requires long term commitment
- Coproduction does not guarantee political cooperation
- Multiple bonds form a better venture
- Not every weapon is worthy of coproduction
- Goals and expectations must be well understood
- Not all nations are capable of coproduction



Coproduction In The Middle East: Engagement or Entanglement?

Recommendations

- Retain coproduction as a foreign policy tool
- Encourage corporate, not just government cooperation
- Aggressively mentor coproduction partners
- Apply proven planning factors to all potential ventures
- Form one government oversight agency
- Develop a regional/multinational coproduction approach
 - Example: Turkey's quest for a main battle tank



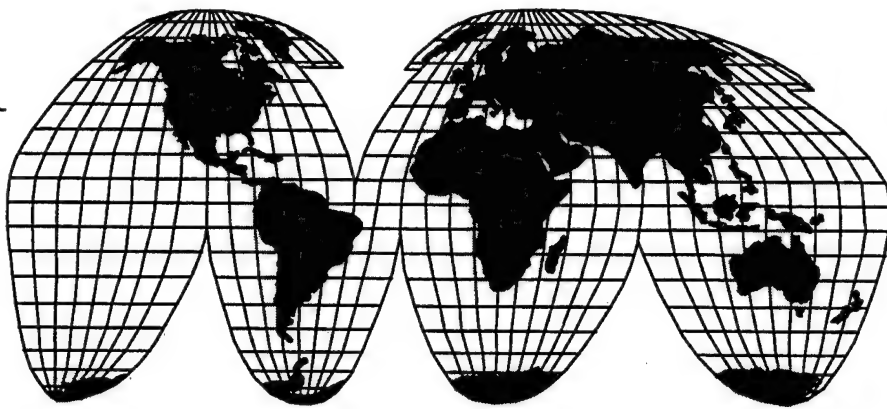
Coproduction In The Middle East: Engagement or Entanglement?

Summary

- Coproduction is a valid foreign policy tool
- Promotes engagement & enlargement
- Can be entangling if not properly executed
- Does not always guarantee political harmony
- Could be better employed multilaterally than bilaterally
 - Requires a focused, coordinated approach



Coproduction In The Middle East: Engagement or Entanglement?



Lt Col Daniel Scott

1998 Research Conference

Limiting Combat Aircraft Sales to Latin America

Lt Col Dan Scott
National Defense Fellow, Miami

Criterion for Measurement

- | | |
|------------------------|-----------------------|
| • <u>Requirements</u> | • <u>US Interests</u> |
| – Threat | – Security |
| – Desired Capabilities | – Prosperity |
| – Cost Reduction | – Democracy |
| – Sovereignty | – Engagement |
| | – Interoperability |

Threat

- Low level of Traditional Conflict
- Real Threat is Poverty
 - Only Chile, Panama, Uruguay Better Off Now Relative to 1980
 - Migration, Environmental Destruction, Crime, Insurgency, Terrorism, Instability
- No Role for Combat Aircraft
 - High Cost Deprives Funding to Poverty Programs

Desired Capabilities

- Some Role for Traditional Missions
 - Border Patrol, Insurgency Response
 - Low Level of Inter-State Conflict
- International Roles
 - Ground or Transport Units
 - Nations Unlikely to Risk Strategic Force
 - Do We Want Combat Airpower Help?

Cost Reductions

- Unproven assumption:
 - Modernization & Inventory Reduction will Reduce Costs
- Cost Reduction Not Likely in Latin America
 - Insufficient Economies of Scale
 - Strategic Imperative to Avoid Dependency

Sovereignty

- In Practice, Sovereignty is Limited
 - Nuclear Non Proliferation
 - Missile Technology Control Regime
 - IMF
- US Has Right Not to Sell Arms
- US Should Take Lead to Reduce Arms Sales

Criterion for Measurement

- Requirements
 - Threat
 - Desired Capabilities
 - Cost Reduction
 - Sovereignty
- US Interests
 - Security
 - Prosperity
 - Democracy
 - Engagement
 - Interoperability

Regional Security

- US Arms Control Initiatives
 - Transparency, CBSMs, Demand Reduction
 - Sales Could Jeopardize Progress
- Low Utility for Real Security Threats
 - Drug Trade
 - Illegal Immigration
 - Guerilla Insurgencies
 - Terrorism

Economic Prosperity

- Nations Cannot Afford Weapons and Fight Rampant Poverty
- US Defense Industrial Base
 - Taxpayers - \$7 B of \$15 B in Sales
 - Offsets Deny Jobs to US Workers
 - US the leader in Arms Market
 - Foreign Sales Very Profitable for Firms
- IMF: 20% Mil Spending Reduction creates \$190 B consumer market

Promote Democracy

- Sales Could be a Vote of Confidence in New Democracies, but:
- Poverty Threatens Stability
 - Legitimacy of Democracy is Fragile
- Civilian Control Limited
 - Military Budget Autonomy
 - Weak Legislative Oversight
 - Limited Civilian Expertise
- Leverage Overstated

Promote Engagement

- Sales Could Facilitate Engagement
- Purchase of US Systems Not Guaranteed
- US Must Engage with Latin America
 - With or Without Weapons Sales
 - Security and Economic Interests
- USAF Needs Focused Strategy

Military Interoperability

- US Systems Could Facilitate Interoperability
 - Training, Support Equipment
- Again, no Guarantee of Purchase
- USAF must Interoperate in Region
 - Planning, Communications, Doctrine

Requirements: Combat Aircraft Utility

<u>Requirement</u>	<u>Advantage</u>	<u>Disadvantage</u>
Threats		
Capabilities		
Costs	—	—
Sovereignty	✓	

US Interests: Combat Aircraft Utility

<u>Interest</u>	<u>Advantage</u>	<u>Disadvantage</u>
Security		
Prosperity		
Democracy		
Engagement	✓	
Interoperability	✓	

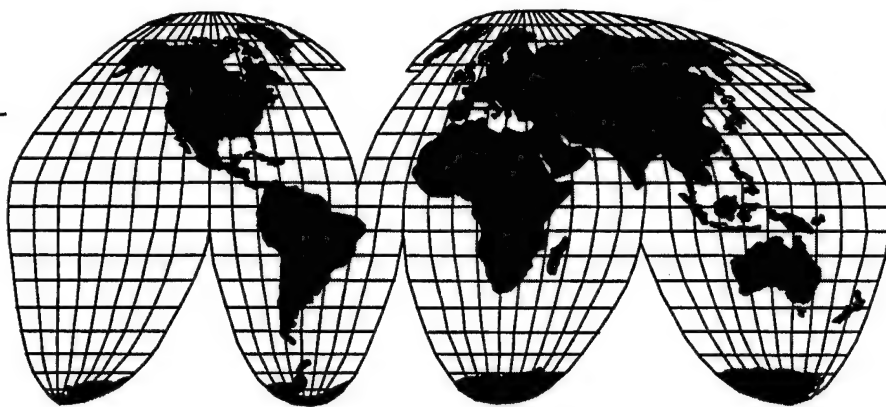
Bottom Line

- US Combat Aircraft Sales to Latin America are generally:
 - Counterproductive to the Region's True Security Needs
 - Prejudicial to US Interests
- Assess Sales from Regional Perspective & Broad US Interests

Limiting Combat Aircraft Sales to Latin America

Lt Col Dan Scott
National Defense Fellow, Miami
DSN 271-6292

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Dr. Frank O. Mora
Lt Col Antonio L. Palá

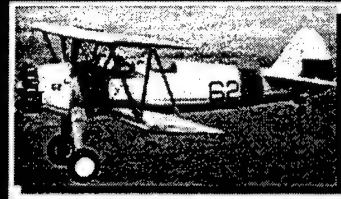
1998 Research Conference

U.S. Arms Transfer Policy for Latin America: The Fighter Aircraft Ban



Dr. Frank O. Mora, Rhodes College
Lt Col Antonio L. Palá, USAFA

To Sell or Not To Sell?



Overview

- Historical Background
- PDD-34
- Current Latin American Landscape
- Flaws in the Critics Arguments
- U.S. Interests
- Conclusion

Historical Background

- Foreign Assistance Act of 1961
- Public Law 94-329 (1976)
 - “Kennedy Amendment”
- President Carter’s PD-13
- The Reagan Administration
- President Clinton’s PDD-34

President Clinton’s PDD 34

- Conventional Arms Transfers are viewed as a legitimate instrument of U.S. foreign policy.
 - Enable U.S. allies to deter aggression
 - Promote regional stability
 - Increase inter-operability
 - Enhance U.S. regional presence

Current Latin American Landscape

- International System
 - Post-Cold War
 - Diminished Ideological Threat
 - Democracy and OAS Res. 1080
- Domestic Concerns
 - Democratization
 - Civil-Military Relations

5 Criticisms Against Sales

- Economic Costs
- Not Needed
- Weaken Democracy
- De-Stabilize the Region
- Pressure from U.S. Industry

Criticism #1

Economic Cost is Too Great

- The Strongest Argument
- Swords to Plowshares
- Zero-sum Argument
- Recent Modeling Studies
 - DeRouen
 - Fredricksen & Looney

Criticism #2

They Just Don't Need Them

- State sovereignty
- Current Missions
 - Fight Drugs
 - Counter-insurgency
 - Humanitarian relief
- International reality
 - Peacekeeping
 - Coalitions

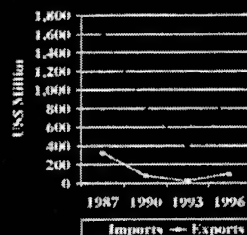
Criticism #3

It Will Weaken Democracy

- Civilians appear weak
- Strengthens the Military
- Ultra-Nationalist Ideas
 - Plot to De-Militarize
 - Reduction in Defense Production
- Lean but Capable

Arms Imports vs. Exports

- Large reductions since the end of Cold War
- Arms productions reduced by half
- Modernizing trend since 1996



Criticism #3

It Will Weaken Democracy

- Civilians appear weak
- Strengthens the Military
- Ultra-Nationalist Ideas
 - Plot to De-Militarize
 - Reduction in Defense Production
- Lean but Capable

Criticism #4

De-Stabilize the Region

- Promote an arms race
- Historical Record
 - Lowest defense expenditures (GDP)
- Ban has been counter-productive
 - Peru-Ecuador (President Carter)
- The ban has been a failure
 - MIG-29, Mirage 2000, AMX

LATAM Defense Spending

(As a Percentage of GDP)

- Latin America has been historically low
- Lack of Interstate Conflicts
- CSBMs for transparency
- Bariloche and Williamsburg Accords



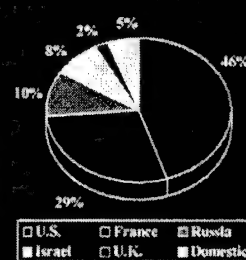
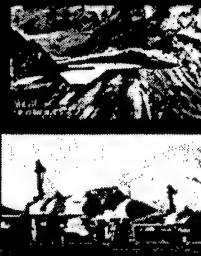
Criticism #4

De-Stabilize the Region

- Promote an arms race
- Historical Record
 - Lowest defense expenditures (GDP)
- Ban has been counter-productive
 - Peru-Ecuador (President Carter)
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 - MIG-29, Mirage 2000, AMX

Fighter Aircraft in the Region

(By Country of Manufacture)



Criticism #5

Pressure from U.S. Industry

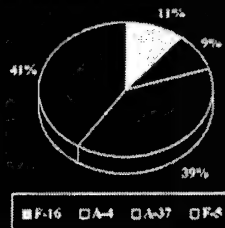
- Economic Greed
- Market is too small
- Excess Defense Articles
- Offset Agreements
 - A-4 Lockheed/Cordoba
- Defense Expenditures

U.S. Interests & Security Cooperation

- Loss of influence and leverage
- Reduced regional presence
 - Diminishing IMET budgets
 - Less Exposure to U.S.
- Inter-operability
- Professionalism

U.S. Aircraft in the Region

(By Type of Aircraft)



U.S. Aircraft in the Region

- With the exception of Venezuelan F-16, none in USAF inventory
- No USAF Training
- Older technology
- Scarcity of spares

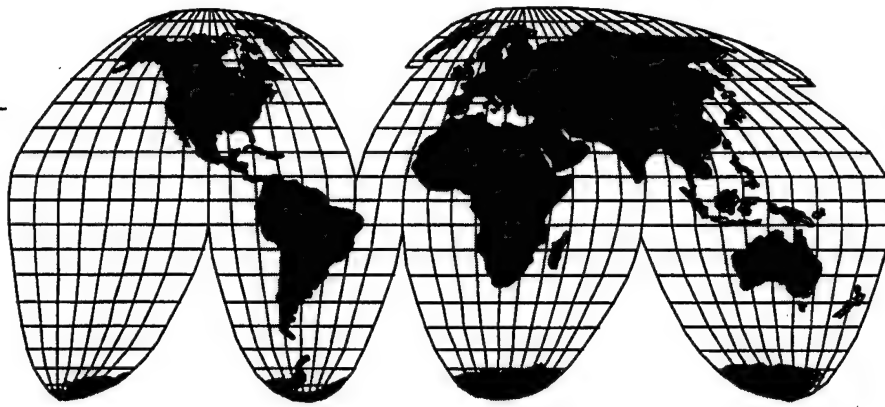


U.S. Interests & Security Cooperation

- Loss of influence and leverage
- Reduced regional presence
 - Diminishing IMET budgets
 - Less Exposure to U.S.
- Inter-operability
- Professionalism

Conclusion

The key element in U.S. arms sales policy to Latin America is to adopt a more realistic approach that allows arms sales to be a component of US influence and leverage over the region's armed forces, while attempting to maintain and enhance the level of peace and security through CSBMs.



Col Samuel Grier

1998 Research Conference

The New NATO

Col Samuel Grier
United States Air Force Academy

10/01/98

Outline

1. The Threat
2. What is NATO For?
3. Other Issues Affecting the Alliance
4. The Future of NATO
5. Conclusions

2

The Threat

Regular Instability, Peacekeeping, Minor Operations
No Prospect of Major War
NATO Freely Admits There is no Threat
NATO Critics: "Where's the Threat?"

3

The Threat

Analogy: President's Commission on Critical
Infrastructure Protection

- ♦ Infrastructures Warrant Protection
- ♦ No Identifiable Threat
 - ♦ No specific Bad Guy, No Clear Enemy
- ♦ Waiting for a Serious Threat to Appear is a Dangerous Strategy

Strengthen NATO Now

- ♦ Waiting for a Serious Threat to Appear is a Dangerous Strategy

4

What is NATO For?

The Military View

- ♦ Two Fundamental Pillars
 - ♦ Collective Defense
 - ♦ Transatlantic Link
- ♦ Assumes:
 - ♦ U.S. Should Be Involved in Defense of Europe
 - ♦ Europe Can't Cooperate Without U.S.
 - ♦ What Happens in Balkans Serves U.S. National Interests

5

What is NATO For?

The Political View

- ♦ The Washington Treaty
 - ♦ Collective Defense
 - ♦ Now Relegated to "Back Pocket"
- ♦ NATO's Activities
 - ♦ European Integration
 - ♦ NATO's Relationship with Russia
 - ♦ Stability in the Euro-Atlantic Area
- ♦ NATO's Goals and Intentions

6

Other Major Issues Affecting the Alliance

The Relationship with Russia

- ♦ Russian Armed Forces in Shambles
- ♦ Eventual Re-emergence as Regional Power
- ♦ NATO-Russia Permanent Joint Council
- ♦ Potential Problems
 - ♦ Predictability
 - ♦ Balance Between Transparency and Permission
 - ♦ Army: Force for Democracy?
- ♦ Backlash Possible?
- ♦ Will Require Continued Attention

7

Other Major Issues Affecting the Alliance

Enlargement: Continue or Pause?

- ♦ The Debate Over Pausing
 - ♦ Fear of Assimilation Problems
 - ♦ It's Gone Well Before, It'll Go Well Again
- ♦ Who Gets to Join?
 - ♦ Neutral Nations
 - ♦ The Baltics
 - ♦ Southern European Nations
 - ♦ Yes to Slovenia

8

Other Major Issues Affecting the Alliance

Enlargement: Continue or Pause?

- ♦ What About the Rest?
 - ♦ Croatia, Bosnia, Serbia, Bulgaria, Macedonia, Albania
 - ♦ Ukraine
 - ♦ Will NATO Close the Door?
- ♦ Conclusions
 - ♦ NATO Will Probably Pause
 - ♦ We Endorse Slovenia's Candidacy

9

Other Major Issues Affecting the Alliance

Kosovo

- ♦ Problems
 - ♦ Less Recognizable Adversaries than Bosnia
 - ♦ Province of Serbia
- ♦ Intentions
 - ♦ War is Unacceptable
 - ♦ Independence is Unacceptable
 - ♦ Diplomatic Solution
 - ♦ Military Intervention
- ♦ Lessons

10

Other Major Issues Affecting the Alliance

Kosovo

- ♦ Lessons
 - ♦ NATO Will Not Allow a Repeat of Bosnia
 - ♦ Back Up Rhetoric with Action -- Quickly
 - ♦ Commitment Must be Open-Ended
- ♦ Other Issues
 - ♦ How to Intervene
 - ♦ Success Will Be Measure of NATO's Effectiveness

11

Other Major Issues Affecting the Alliance

NATO's New Strategic Concept

- ♦ NATO: Global Actor or Regional Security Organization?
 - ♦ U.S. View -- Global Actor
 - ♦ European View -- Regional Actor
- ♦ Looking South
 - ♦ Non-Article V Problems
- ♦ Conclusions

12

Other Major Issues Affecting the Alliance

The Military Capabilities Gap

- ◆ Disparity in military capability, doctrine, computer technology
- ◆ Europeans -- Not a Problem for NATO
- ◆ U.S. -- Big Problem if NATO is to Act as a Coalition

13

Other Major Issues Affecting the Alliance

ESDI

- ◆ Albanian Crisis -- WEU Did Not Act
- ◆ German Reunification
- ◆ CJTF
- ◆ The Reality
- ◆ Damaging Policy?

14

The Future of NATO

Short Term

- ◆ Regional Role for NATO

Traditional NATO is Ebbing

- ◆ No Common Threat
- ◆ Alliance is Enlarging
- ◆ Move from Collective Defense
- ◆ ESDI
- ◆ Technology Gap

No Turning Back

15

Conclusions

Dynamic, Evolving European Security Environment

NATO Will Enlarge

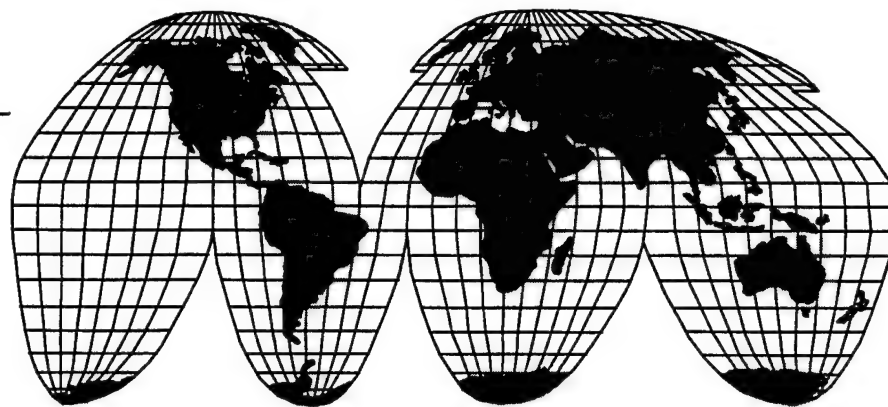
Instability is the New Enemy

Much Remains to Be Done

NATO Has a Purpose

16

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Lt Col David Fadok

1998 Research Conference



**Juggling the Bear:
Assessing NATO Enlargement
in Light of
Europe's Past and Asia's Future**



Overview

- Definition of Policy Proposal
- Key Research Assumptions
- Key Research Findings
- Concluding Remarks



Policy Proposal

The United States should begin
advocating NATO membership
for the Russian Federation



Proposal Clarification

- Advocacy is a departure from the current
policy of not 'naming names'
- Advocacy is not an unconditional
promise of accession
 - *Offer of membership tied to Russian
adherence to NATO principles & practices



Research Assumptions

- NATO has a purpose in the post-Cold War era as
a 'collective defense-plus' entity
- Strategic benefits outweigh economic costs
- The likelihood of Russian acceptance or Alliance
consensus does not influence US policy decision
- *National Security Strategy for a New Century* is
the blueprint for securing American interests



Key Findings

- US advocacy of Russian membership could help:
- Counter internal threats to Russian
democratization
 - Construct an effective security architecture for
post-Cold War Europe
 - Address emerging challenges to Asia-Pacific
security; notably, China's rise & its burgeoning
relationship with Russia





NATO, Russia & Democratization



Democracy Theory

- Successful democracy building is the product of internal & external forces
- Internal forces are the primary agents of political development & regime change
- External forces shape the internal process
 - * An influential external force is the international security environment



NATO History

- NATO was created to address both external & internal threats to European democracies
- NATO assisted French, Italian & Spanish transitions from autocratic to democratic rule by providing an 'air of security'
 - * Physical security from external attack
 - * Psychological security from internal self-doubt



Russian Democratization

- Primary threats are internal
- US advocacy would shape external forces
 - * A more benign physical security environment would encourage a diversion of attention & resources to necessary internal reforms
 - * A more benign psychological security environment would underscore Western confidence in & support for Russian reformists



NATO, Russia & European Security



US National Security Strategy

"Our objective is to complete the construction of a truly integrated, democratic and secure Europe, with a democratic Russia as a full participant. This would complete the mission the United States launched 50 years ago with the Marshall Plan and the creation of the North Atlantic Treaty Organization . . . As guarantor of European democracy and a force for European stability, NATO must play the leading role in promoting a more integrated, secure Europe prepared to respond to new challenges."





US National Security Strategy

- **End:** to create a peaceful, undivided & democratic Europe
- **Way:** through an inclusive security framework in which both the US & Russia play prominent roles
- **Means:** using NATO as the driving force to make it happen



US National Security Strategy

- **Bottomline:**
NATO & Russia must cooperate to achieve genuine peace & stability; but how?
As two parts of an integrated whole?
or
As two separate & distinct entities?



NATO-Russia Founding Act

- May 1997 agreement to consult & cooperate on matters 'of common interest' through a Permanent Joint Council (PJC)
- As a *permanent* framework, it will reintroduce 'spheres of influence' in Europe
 - * 'Near abroad' & 'out of area' common interests?
 - * PJC cannot resolve fundamental disputes since Joint action requires consensus
 - Separate action is not effectively deterred



NATO & "Collective Security"

- **Historical design:** Article 5 & the 1947 Rio Pact
 - * Collective response to external & intra-alliance aggression
 - * "Conceived in these terms, it would be possible for the Soviet Union to join the arrangement without detracting from the protection which it would give to its other members." -- John Hickerson, USSTATE, 1948
- **Historical function**
 - * Collective security system for Western Europe
 - * Collective defense alliance against the USSR



NATO & "Collective Security"

- Russian entry would transform the alliance ...
... but the transformation would be evolutionary, not revolutionary



NATO, Russia & Asian Security





China & Sino-Russian Relations

- China will be a major US competitor by 2020
- Economic modernization is Job #1
 - * No direct one-on-one military challenge
 - * Indirect mitigation strategy via power politics
- Russia as the new 'China card'
 - * Current NATO expansion provides 'wedge issue' that China uses to gain leverage vis-à-vis the US



Potential Costs of Russian NATO Membership

- China becomes a 'global spoiler' due to its sense of isolation & encirclement
- US-Japanese relations are strained & Japan re-nationalizes its security policy due to Northern Territories dispute
- Russian economic recovery stalls out due to loss of Chinese markets & Japanese capital



Concluding Remarks

- US advocacy of Russian NATO membership
 - * Is in accord with US National Security Strategy, yet still requires a difficult 'paradigm shift'
 - * Provides potentially significant security benefits for the US, but is not risk-free



Concluding Remarks

- US advocacy of Russian NATO membership
 - * Advances a functional transformation of NATO which is evolutionary in nature . . . and necessary if the organization is to remain relevant in the post-Cold War era

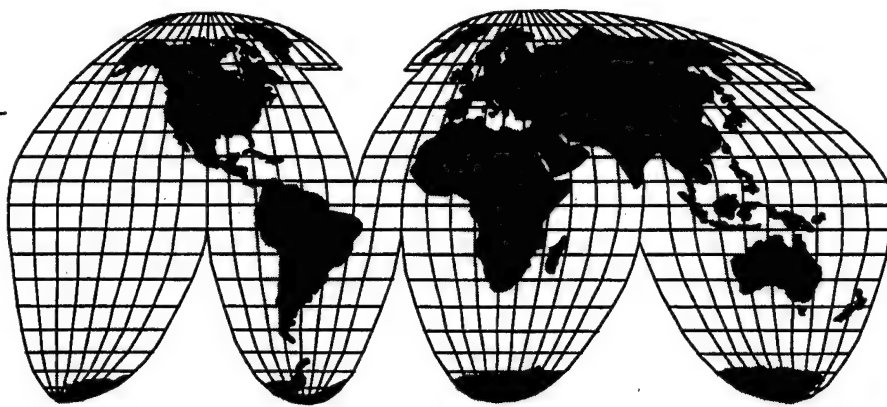


Concluding Remarks

"This treaty, though born of fear and frustration, must however lead to positive social, economic, and political achievements if it is to live—achievements which will extend beyond the time of emergency which gave it birth, and beyond the geographic area which it now excludes."

—Lester B. Pearson
4 April 1949





Maj Marybeth Ulrich

1998 Research Conference

NATO's Identity at a Crossroads: Institutional Challenges Posed by NATO's Enlargement and Partnership for Peace Programs

Major Marybeth Ulrich

Department of Political Science
U.S. Air Force Academy

NATO's First Steps at Adapting to Post-Cold War Environment

- 1991 Rome Summit
 - ◆ New Strategic Concept
 - ◆ North Atlantic Cooperation Council Announced

Partnership for Peace Launched

- 1994 Brussels Summit
- Shows NATO's Commitment to Enlargement
- Addresses Alliance Objective of Exporting Stability

Role of Bosnian Operations in Partnership for Peace Evolution

- Highlighted Substantial Contributions of Partners
- Showed Limitations of PfP as Process to Facilitate Such Operations
- Gave Russians Inside Look at NATO

Madrid Summit -- July 1997

- First Invitations Issued
- Demands for Greater Political and Operational Consultation
- Concern about Reaction of Non-selectees
- Satisfy Security Objectives of Partners Without Membership Goals

Enhanced Partnership for Peace

- Political Component
 - ◆ Euro-Atlantic Partnership Council
 - ◆ Intensified Dialogues
 - ◆ Expanded PARP
- Operational Component
 - ◆ Expand Breadth of Operations to Everything Short of Article 5
 - ◆ Expand Depth of Participation in Ops
 - ◆ Partner Staff Elements

NATO's Evolving Caste System

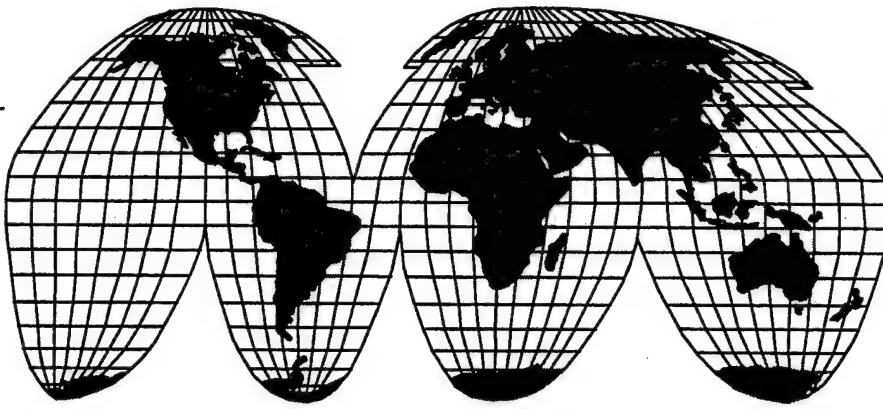
- "The Haves"
- "The Have Nots"
- "The Have What We Want"

The "Razor Thin" Argument

- A vital PfP program may make the difference between member and non-member status inconsequential.
- Substitute for Membership?


NATO at a Crossroads: Unresolved Issues

- Open Door?
 - ◆ Most predict no further invitations at the Washington Summit
- What About the Baltics?
 - ◆ Baltics understand fate tied to Russian comfort level
 - ◆ US-Baltic Charter
- Ensuring New Members Meet Obligations
 - ◆ No process to kick members out
 - ◆ Lessons learned in exploiting leverage in the candidacy stage for membership




Capt Stephen Lambert


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NATO Enlargement and the Baltic States: *In the Interest of European Security*




The View from the United States



The View from the Russian Federation


1998 INSS Research Results Conference
USAF Academy, Colorado Springs, CO 



Russian Perspectives *Geostrategic View*


International threats to the national security of the Russian Federation come from the attempts of other countries to counter the strengthening of Russia as one of the influential centers of the shaping multipolar world.

Conception of the National Security of the Russian Federation (Dec '97)




Russian Perspectives *U.S. National Policy*

- US
 - Demonstrates unipolar (single-superpower) motives and aspirations throughout the world
- NATO
 - Vehicle for US influence and leadership in Europe
- NATO Expansion
 - A tool for projecting US influence on the territories of the Eastern European Countries and former Soviet Republics




Russian Perspectives *The Baltic's Faulty Logic*

- History
 - The Baltics regard Russia as the Soviet Union and thus remain hostage to history in their foreign-policy making
 - The Baltics look at NATO as a means to integrate with the West to defend from threats from Russia
- Security Issues
 - international crime & drug trafficking
 - illegal immigration
 - environmental issues



Russian Perspectives *3 Options for Baltic Security*

1. Integrate with the West by joining NATO
2. Adopt a neutral posture (Sweden/Finland)
3. Become a satellite of Russia



Russian Perspectives *Regional Security Objectives*

- Prevent any single state from dominating the Baltic area both on sea and on land
- Prevent the emergence of hostile political-military organizations as well as discourage existing ones from expanding
- Prevent the militarization of the Baltic states and the establishment of any foreign military presence.
- Encourage the Baltic states to integrate with the European Union and other multi-national and European (non-U.S.) organizations

U.S. Perspectives

Core Function of NATO

- NATO is NOT a collective security organization
- NATO provides a substantial and credible military guarantee for the defense of its members
- The core of this guarantee is Article 5 of the Washington Treaty (collective self-defense)

DEFENSIBILITY

U.S. Perspectives

Core Function of NATO

- Serious questions as to whether or not Article 5 credibility could be preserved
- Contiguous border with the Russian Federation and Belarus
- Forward defense not a credible option, unless
 - Increased forward basing of conventional assets
 - Emphasis on nuclear weapons warfighting

U.S. Perspectives

US/NATO--Russian Relations

- Russia will NOT be given a *droit de regard* in NATO Enlargement
- NATO will NOT be dictated the terms of NATO Enlargement--no "second class" members
- NATO MUST preserve widely spread Alliance burdensharing with any new member states

- NATO-Russia Founding Act
- Permanent Joint Council (PJC)
- Euro-Atlantic Partnership Council (EAPC)

U.S. Perspectives

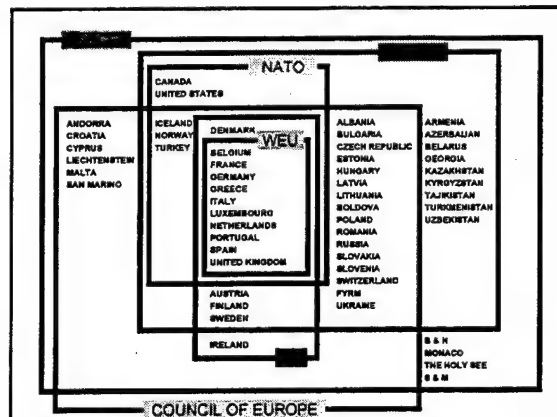
US/NATO--Russian Relations

- The Russian Federation has virtually acquiesced to NATO Enlargement, at least with Poland, Hungary, and the Czech Republic
- Most NATO Officials acknowledge that there is a Russian "red line"--those states that were formerly part of the Soviet Union

U.S. Perspectives

Baltic Security?

- Enmesh the Baltics in Euro-Atlantic economic and security organizations
 - OSCE (Org for Security and Coop in Europe)
 - WEU (Western European Union)
 - EAPC (Euro-Atlantic Partnership Council)
 - PfP (Partnership for Peace)
 - COE (Council of Europe)
 - CBSS (Council of Baltic Sea States)
- Provides *de facto* element of deterrence
- Forms link between Russian behavior and overall organizational relationships w/ Russia





Conclusions



- Enmesh the Baltics in a web of bilateral, multi-lateral, and institutional ties with the West
- Include military cooperation
 - BALTBAT / BALTNET / BALTRON
- As Russia becomes more dependent on the international system, the “price tag” for recidivism will become more costly and complex
- The bedrock question in NATO Enlargement should continue to revolve around the ability to meet an Article 5 threat or challenge



Conclusions

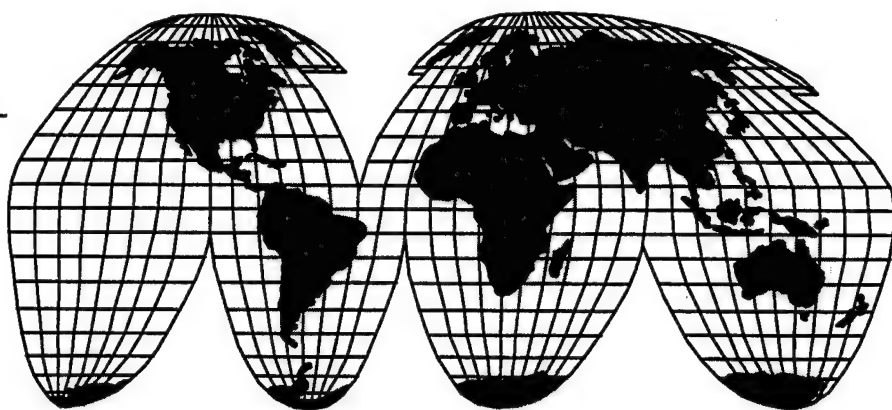


The expansion of NATO will be worse than useless unless it is backed by the military power needed to fulfill the pledges we are undertaking.

Donald Kagan

Bluffing is not an option--operational readiness and Article 5 military capability must be exercised, or NATO's credibility will atrophy.

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Maj Scott Anderson
Maj Steve Rothstein

1998 Research Conference

Our View of the Vertical Dimension: A Dilemma with Consequence

by
Major Scott Anderson
Major Steve Rothstein

Space Policy Panel

Institute for National Security Studies
Research Results Conference

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Research Question

"How does the current view of the air and space environment influence the development of military space forces?"

Overview

How the Current View of the Air and Space Environment Influences the Development of Military Space Forces

- ▶ Argument
 - The "view" and its consequences
 - How to measure its influence
- ▶ Evidence
 - Presented
 - Evaluated
- ▶ Critique
 - Conclusions and Implications

Describing the View (Chapter 2)

- ▶ The relationship that *separates* space from air
 - Two different physical mediums
- ▶ The relationship that *links* space with air
 - Physical
 - Theoretical
 - Historical

Describing the View

The current paradigm

Space and the atmosphere represent two distinct medium environments physically different from each other; while at the same time, they are physically linked, and theoretically and historically tied

Describing the View

Consequences of the paradigm

- ▶ Perceptions determine actions
- ▶ A paradox exists
 - Space is separate from yet tied with air
- ▶ **Result:** Presents a dilemma that affects military space force development

Measures of Merit (Chapter 3)

Three core questions

- ▶ *Who* should advocate and lead the development of a military space force?
 - Embraces, promotes and garners support
- ▶ *Why* is a military space force needed?
 - Basis for space power theory
- ▶ *What* should the military do in space?
 - Foundation for functions and missions

Measures of Merit

Significance of the questions: **Given an advocate...**

Measures of Merit

Significance of the questions: **Given an advocate...**

- ▶ Long-term
 - Why - theory
 - What - functions / missions = vision/direction

Measures of Merit

Significance of the questions: **Given an advocate...**

- ▶ Long-term
 - Why - theory
 - What - functions / missions = vision/direction
- ▶ Short-term
 - Why - justification
 - What - articulation = requirements

Measures of Merit

Significance of the questions: **Given an advocate...**

- ▶ Long-term
 - Why - theory
 - What - functions / missions = vision/direction
- ▶ Short-term
 - Why - justification
 - What - articulation = requirements
- ▶ Together, a "concept-pull" environment

Presenting the Evidence (Chapter 4)

An overview...

- ▶ **Posing the questions ...**
 - **Who** are the current advocates?
 - **Why** (theories)?
 - **What** (functions and missions)?
- ▶ **... against the context of the paradigm**
 - *Conditions* that *link* air and space
 - *Conditions* that *separate* air from space

Applying the Measures...

Conditions that *link* air and space

- ▶ **Who** (Advocacy)
 - AF Advocates Air and Space Unity
- ▶ **Why** (Theory)
 - The singular concept of air and space power theory justifies air and space forces
- ▶ **What** (Functions)
 - AF functions generally apply across both mediums

Applying the Measures...

AF Functions:

Air Only	Both Air and Space	Space Only
Airlift	Counterair	Spacelift
Air Refueling	Counterspace	
	Counterland	
	Countersea	
	Strategic Attack	
	Counterinformation	
	Command and Control	
	Special Operations Employment	
	Intelligence	
	Surveillance	
	Reconnaissance	
	Combat Search and Rescue	
	Navigation and Positioning	
	Weather Services	

Applying the Measures...

Conditions that *separate* space and air

- ▶ **Who** (Advocacy)
 - USSPACECOM advocates space as a fourth medium/power
 - AF internal cultural resistance
- ▶ **Why** (Theory)
 - Information Superiority justifies space forces
- ▶ **What** (Functions and Missions)
 - Two of USSPACECOM's four official missions
 - Subtle inconsistencies in AF functions

Applying the Measures...

AF Functions:

Air Only	Both Air and Space	Space Only
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	Strategic Attack	
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	Intelligence	
	Surveillance	
	Reconnaissance	
	Combat Search and Rescue	
	Navigation and Positioning	
	Weather Services	

Summarizing the Evidence

How the current paradigm expresses itself:

- | | | |
|-------------------|-------------|--------------------------------|
| ▶ "Links" | | ▶ "Separators" |
| • Air Force | Who | • USSPACECOM |
| | | • AF cultural issues |
| • Aerospace Power | Why | • Information Superiority |
| • AF Functions | What | • USSPACECOM Missions (2 of 4) |
| | | • AF Function inconsistencies |

Evaluating the Evidence

(Chapter 5)

Positive Implications

The current paradigm *encourages* military space force development

- ▶ Promotes a strong environment for debate among competing advocates
- ▶ Flexibility in strong "technology-push" environment
- ▶ Supports historical precedence of medium centric perspective
- ▶ **TBL:** better decisions emerge from healthy debate

Evaluating the Evidence

Negative Implications

The current paradigm *hampers* military space force development

- ▶ Weakened ability to articulate a position
- ▶ Long term: Dilemma foils efforts to develop space theory and vision
- ▶ Short term: Two differing points of view thwart efforts to clearly articulate and justify needs to Congress

Conclusions and Implications

(Chapter 6)

- ▶ **Positive aspects have outlived their usefulness**
 - "Healthy" debate continues
 - DOD has yet to present a unified position
- ▶ **Negative aspects are challenging the military's ability to develop a viable space force**
 - Internal funding
 - External funding

Concluding Remarks

- ▶ What then?
 - Status quo isn't good enough
 - Historical evidence indicates compromise is improbable
- ▶ **A better alternative: Reevaluate, refine, or even replace the current paradigm**
 - Must alleviate the paradox
 - Must develop a concept pull environment
 - Who, Why, and What must not conflict
 - Must be "embracable"

Epilogue...

Current SAAS Research

- ▶ **Future alternatives...**
 - Popular concepts
 - "Clash of Cultures" - (Huntington)
 - "Agrarian v. Industrial" - (Toffler)
 - "Growing Interdependence" - (Fukiyama)
 - NDP alternatives
 - Global Stability
 - 1990 extrapolation
 - Emergence of a near peer competitor
 - Chronic crisis

Current SAAS Research

- ▶ **Present...**
 - Economic COG is migrating to space
- ▶ **The Past: A promising model?**
- ▶ **Over 2500 years of maritime history...**
 - Complete Maneuverability
 - Confident Survivability
 - Psychological Acceptance
- ▶ **...the littorals and high seas "fused"**
- ▶ **...before a global perspective of sea power emerged**

Current SAAS Research

► Potential implications

- Offers a "solution" to the current paradigm?
- Strengthens the vision?
- Lays the framework for theory?
- Broadens the "Airman's Perspective?"

Background

► Sponsored Topic: *"Pros and Cons of an Independent Space Force"*

► Research

- Comprehensive literature search
- Interviews w/ key personnel in DOD

► Problem develops -- vector change